Report No. CG-D-20-96, IV

Research Methods to Develop Measures of Effectiveness of the United States Coast Guard's Vessel Inspection and Boarding Program

APPENDICES - VOLUME IV

Timothy Wheeler Roger Cox Kishore Gawande Ryan Stone Laurie Waisel William Wallace

Sandia National Laboratories 1515 Eubank S.E. Albuquerque, NM 87123

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Commanding Officer

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1082 Shennecossett Road Groton, CT 06340-6096

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16. Abstract		
Econometric analysis was performed casualties and the resource hours of MOEs by 1) quantifying the decrease duration in days to a casualty that realist Based Ranking (RBR) was used being key contributers to the occurre For U.S. vessels the results indicated deaths, injuries, and pollution incided inferences. The RBR showed that Factors, Steering/Navigation, and Contributers and Contributers and Contributers.	or deep draft vessels. Measures ivity, and sub-activity levels. Indoor the relationship between the expended by the Inspection and I see in expected number of casualties are in resourced to enumerate the contribution ence of casualties. In that resources expended are expended are expense. For foreign vessels the resist the dominant contributors to mar cargo/Pollution Control sub-activity.	of Effectiveness (MOEs) were developed at e number of personnel and pollution Boarding programs. The estimates provide ties, and 2) quantifying the increase in the ce hours. A second methodology called of factors targeted by sub-activities as ffective in reducing expected number of tults are not robust and do not allow clear itime risk are linked to Drills/Human ty intervention strategies. The order of
	n was developed that displays th umes: Volume I - Executive Sur	e econometric models graphically. This nmary; Volume II - Main Report; Volume e IV - Appendices.
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Appendix A US Flag and Foreign Flag MSO Risk-Based Ranking Results

Section A.1 contains the results for U.S. Flag district level RBRs, Section A.2 contains the results for foreign flag district level RBRs, Section A.3 contains the results for the U.S. flag MSO RBRs, and Section A.4 contains the results for the foreign flag MSO RBRs. The risk-based ranking results in this appendix are expressed as absolute risk, as illustrated in Table 2.2. These absolute importance measures have not be normalized to yield relative risk rankings (as was done in Section 3.2 for the USCG-wide level data aggregation). Such relative rankings could be directly developed from the absolute measures. However, the normalized rankings merely set the importance results within a convenient scale between 0.0 and 1.0. The order of rank between Level III Intervention strategies is the same for both absolute and normalized measures, and the same insights regarding the importance of the various Level III Intervention strategies to risk would be derived from either measure.

A.1 U.S. Flag District Level Risk-Based Ranking Results

Bin data used in the risk-based ranking for district level data aggregation are shown in Table A.1.1. The risk-based ranking results are shown in Tables A.1.2 through A.1.9 as follows:

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Table A.1.2 - U.S. Flag, District, Relative Frequency, Deaths, Table A.1.3 - U.S. Flag, District, Relative Frequency, Injuries, Table A.1.4 - U.S. Flag, District, Relative Frequency, Property Loss, Table A.1.5 - U.S. Flag, District, Relative Frequency, Pollution, Table A.1.6 - U.S. Flag, District, Casualty Frequency, Deaths, Table A.1.7 - U.S. Flag, District, Casualty Frequency, Injuries, Table A.1.8 - U.S. Flag, District, Casualty Frequency, Property Loss, Table A.1.9 - U.S. Flag, District, Casualty Frequency, Pollution.
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Table A.1.1 Risk-Based Ranking Bin Data Summary - USCG Districts, U.S. Flag

	Consequences	Property Pollution Loss	\$6,055,882 1653	\$193,300 32	\$514,950 286	0 0\$	\$93,300 0	0 0\$	\$1,343,263 3174	\$243,300 0	\$151,850 146	\$1,562,300 180	\$189,200 112	\$133,450 1520
Flag	Cons	Injuries	38	12	31	0	2	0	19	7	7	17	5	19
tricts, U.S.		Deaths	2	1	0	0	0	0	0	0	0	2	0	0
Table A.1.1 Risk-Based Ranking Bin Data Summary - USCG Districts, U.S. Flag	Casualty Freq Std Dev		0.0288	0.0055	0.0279	NOINSPECT IONS	0.0106	NOINSPECT IONS	0.0349	0.0157	0.0414	0.0389	0.0093	0.0504
sin Data Sumn	Casualty Freq.		0.36	0.04	0.31	NOINSPE CTIONS	0.04	NOINSPE CTIONS	0.46	0.13	0.36	0.46	0.05	69.0
Ranking E	Relative Freq.		0.05	0.03	0.04	0.00	0.01	0.00	0.05	0.03	0.02	0.04	0.01	0.03
1 Risk-Based	Casualties		102	50	87	0	13	0	93	62	48	75	24	58
Table A.1.	Inspections		280	1255	277	0	333	0	204	466	134	164	215	84
	Bin	Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
		District	-			2			5			7		

		Table A.1.1	1 Risk-Based	,	sın Data Sumı	Kanking Bin Data Summary - USCG Districts, U.S. Flag	TICES, U.S.	rlag		
	Bin	Inspections	Casualties	Relative Freq.	Casualty Freq.	Casualty Freq Std Dev		Ŝ	Consequences	
	FREIGHTER	368	251	0.13	0.68	0.0243	4	86	\$4,336,574	14513
	PASSENGER	415	13	0.01	0.03	0.0086	0	-	\$8,270	0
	TANKER	228	110	90.0	0.48	0.0331	0	28	\$4,065,265	1563
	FREIGHTER	278	167	0.09	09.0	0.0294	1	28	\$5,248,841	2004
	PASSENGER	511	18	0.01	0.04	0.0082	0	1	\$377,000	5
	TANKER	24	1	0.00	0.04	0.0408	0	0	\$0	0
	FREIGHTER	242	147	0.08	0.61	0.0314	1	62	\$3,697,651	429
******	PASSENGER	530	40	0.02	0.08	0.0115	0	2	\$24,806	89
	TANKER	147	68	0.05	0.61	0.0403	-	19	\$155,046	2859
	FREIGHTER	153	94	0.05	0.61	0.0394	-	34	\$5,209,350	264
	PASSENGER	281	69	0.04	0.25	0.0257	0	15	\$695,375	7
	TANKER	168	130	0.07	0.77	0.0323	3	37	\$278,621	169
1	FREIGHTER	155	50	0.03	0.32	0.0375	0	27	\$54,700	25454
	PASSENGER	258	33	0.02	0.13	0.0208	-	2	\$1,034,020	1010
	TANKER	127	96	0.05	0.76	0.0381	0	26	\$1,255,300	2056
	EDEICHTED	U8	9	000	800	0.0294	<u> </u>		\$200,000	ν.

	Table A.1.	1 Risk-Basec	Ranking F	3in Data Sum	Table A.1.1 Risk-Based Ranking Bin Data Summary - USCG Districts, U.S. Flag	tricts, U.S.	Flag		
Bin	Inspections Casualties	Casualties	Relative Freq.	Casualty Freq.	Casualty Fred Std Dev		Cor	Consequences	
PASSENGER	121	15	0.01	0.12	0.0300	0	0	\$4,800	25
TANKER	15		0.00	0.07	0.0644	0	0	\$0	0

Table A.1.2 Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Deaths

			Table A.1.2	2	Rankings - U.S.	sk-Based Rankings - U.S. Flag, District, Relative Frequency, Deaths	lative Frequency,	Deaths			
	Bin					Intervention Strategy Importance	tegy Importance				
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
_	FREIGHTER	0.0124	0.0134	0.0000	0.0433	0.000	0.0051	0.0021	0.0021	0.000	0.0041
1	PASSENGER	0.0010	0.0144	0.0000	0.0062	0.000	0.0000	0.0010	0.0015	0.0000	0.0010
-	TANKER	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.000	0.000
2	Freighter	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.000
2	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000
2	TANKER	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000
8	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.000
S	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
\$	TANKER	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000
7	FREIGHTER	0.0072	0.0216	0.000	0.0196	0.000	0.0051	0.0010	0.0021	0.000	0.0021
7	PASSENGER	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.000
7	TANKER	0.000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
•	FREIGHTER	0.0515	0.0927	0.0000	0.2142	0.000	0.0082	0.0062	0.0103	0.0000	0.0206
s c	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
	TANKER	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000
6	FREIGHTER	0.0113	0.0263	0.000	0910.0	0.000	0.0057	0.0015	0.0057	0.0000	0.0010
6	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000

			Table A.1.2	14	Rankings - U.S.	Flag, District, Re	Risk-Based Rankings - U.S. Flag. District, Relative Frequency, Deatha	Deaths			
	Bin			,		Intervention Stra	Intervention Strategy Importance				
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Holl	Lifesaving	Other
6	TANKER	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.000
=	FREIGHTER	0.0093	0.0113	0.000	0.0304	0.000	0.0026	0.0010	0.0108	0.000	0.0008
=	PASSENGER	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000
=	TANKER	0.0139	0.0072	0.0000	0.0103	0.0000	0.000\$	0.0005	0.0046	0.0000	0.0015
13	FREIGHTER	0.0088	0.0067	0.0000	0.0180	0:0000	0.0005	0.0015	0.0015	0.0000	0.000\$
13	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000
13	TANKER	0.0247	0.0433	0.0000	0.0649	0.0000	0.0031	0.0000	0.0093	0.0000	0.0093
*	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000
41	PASSENGER	0.0010	0.0077	0.0000	0.0031	0.000	0.0010	0.0005	0.0000	0.0000	0.0005
7	TANKER	0.0000	0.0000	0.0000	0.000.0	0.0000	0.000.0	0.000	0.0000	0.0000	0.000
17	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
17	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000.0	0.0000	0.0000	0.0000	0.0000	0.000
17	TANKER	0.0000	0.000	0.0000	0.000.0	0.000.0	0.0000	0.0000	0.000	0.0000	0.0000

Table A.1.3 Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Injuries

Bin Lavel III Intervention Stringty Importance Fried Hull Lifeaving Other Plant Frie Hull Lifeaving Other Other In AssENGER 0.0394 0.0294 0.0090 0.0391 0.0392 0.0				Table A.1.3	H	Rankings - U.S.	Flag, District, Re	Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Injuries	, Injuries			
Service Carp/Poll. Sterring Documental Drills Auxiliary Power Plant Frie Hulf Lifeaving Lifeaving PREGIFTER 0.2344 0.0000 0.5718 0.0000 0.0737 0.0000 0.0134 0.0109 0.0000 0.0124 0.0109 0.0000 0.0124 0.0109 0.0000 0.0124 0.0109 0.0000 0.0124 0.0109 0.0000 0.0124 0.0109 0.0000		Bin				Leve	I III Intervention	Strategy Importa	nce			
FREIGHTER 0.1348 0.2544 0.0000 0.8218 0.0000 0.0978 0.0991 0.0991 0.0000 PASSENCER 0.0124 0.1730 0.0000 0.0742 0.0000 0.0034 0.0184 0.0000 0.0184 0.0000 0.0019 0.0166 0.0185 0.0000 0.0019 0.0000 0.0019 0.0000	istrict	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
PASSENGER 0.0124 0.1736 0.0000 0.0742 0.0000 0.0742 0.0000 0.0124 0.0156 0.0158 0.0106 TANKER 0.1736 0.2394 0.0000 0.4789 0.0000 0.0319 0.0169 0.0639 0.0000 FREIGHT 0.0000	1	FREIGHTER	0.2348	0.2544	0.0000	0.8218	0.000	0.0978	0.0391	0.0391	0.0000	0.0783
TANKER 0.1756 0.2394 0.0000 0.4789 0.0000 0.0019 0.0119 0.0160 0.0059 0.0000 FASSENGER 0.0000 <td>-</td> <td>PASSENGER</td> <td>0.0124</td> <td>0.1730</td> <td>0.0000</td> <td>0.0742</td> <td>0.0000</td> <td>0.0000</td> <td>0.0124</td> <td>0.0185</td> <td>0.0000</td> <td>0.0124</td>	-	PASSENGER	0.0124	0.1730	0.0000	0.0742	0.0000	0.0000	0.0124	0.0185	0.0000	0.0124
FASSENGER 0.0000 0.00	-	TANKER	0.1756	0.2394	0.0000	0.4789	0.0000	0.0319	0.0160	0.0639	0.0000	00000
PASSENGER 0.0000 0.0031 0.0000 0.00	2	Freighter	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
TANKER 0.0000<	2	PASSENGER	0.0000	0.0031	0.0000	0.0021	0.0000	0.0000	0.0021	0.0000	0.0000	00000
FREIGHTER 0.1565 0.2152 0.0000 0.1859 0.0000 0.0733 0.0294 0.0196 0.0000 PASSENGER 0.0000 0.1009 0.0180 0.0000 0.0433 0.0072 0.0180 0.0000 TANKER 0.021 0.0252 0.0000 0.0438 0.0000 0.0438 0.0000 0.0000 0.0036 0.0036 0.0000 0.0000 0.0000 0.0036 0.0036 0.0000 0.0000 0.0000 0.0036 0.0036 0.0000	2	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
PASSENGER 0.0000 0.1009 0.0180 0.0000 0.00433 0.0072 0.0180 0.0000 0.0036 0.0036 0.0036 0.0036 0.0036 0.0036 0.0000 0.0000 0.0053 0.0036 0.0000 0.0000 0.0053 0.0036 0.0000 0.0000 0.0053 0.0000 0.0000 0.0054 0.0000 0.0000 0.0054 0.0000 0.0054 0.0000 0.0054 0.0000 0.0054 0.0000 0.0054 0.0000 0.0	5	FREIGHTER	0.1565	0.2152	0.0000	0.1859	0.0000	0.0783	0.0294	0.0196	0.0000	0.0294
TANKER 0.0324 0.0286 0.0252 0.0000 0.0350 0.0360 0.0360 0.0360 0.0360 0.0360 0.0360 0.0000 0.0438 0.0036 0.0175 0.0000 PASSENGER 0.0129 0.0438 0.0002 0.0438 0.0026 0.0175 0.0000 <td>5</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.1009</td> <td>0.0000</td> <td>0.0180</td> <td>0.000</td> <td>0.0433</td> <td>0.0072</td> <td>0.0180</td> <td>0.0000</td> <td>90000</td>	5	PASSENGER	0.0000	0.1009	0.0000	0.0180	0.000	0.0433	0.0072	0.0180	0.0000	90000
FREIGHTER 0.0613 0.1838 0.0000 0.1663 0.0000 0.0438 0.0000 0.1663 0.0000 0.0036 0.0036 0.0036 0.0036 0.0036 0.0000 0.00	5	TANKER	0.0324	0.0288	0.0000	0.0252	0.0000	0.0360	0.0036	0.0000	0.0000	90000
PASSENGER 0.0129 0.0438 0.0000 0.0051 0.0000 0.0005 0.0000 0.00	7	FREIGHTER	0.0613	0.1838	0.0000	0.1663	0.0000	0.0438	0.0088	0.0175	0.0000	0.0175
TANKER 0.1565 0.0978 0.0000 0.1859 0.0000 0.0294 0.0098 0.0196 0.0196 0.0000 FREIGHTER 1.2616 2.2709 0.0000 5.2482 0.0000 0.0201 0.1514 0.2523 0.0000 PASSENGER 0.0000	7	PASSENGER	0.0129	0.0438	0.0000	0.0051	0.0000	0.0026	0.0026	0.0026	0.0000	0.000
FREIGHTER 1.2616 2.2709 0.0000 5.2482 0.0000 0.2019 0.1514 0.2523 0.0000 PASSENGER 0.0000 0.0003 0.0000	7	TANKER	0.1565	0.0978	0.0000	0.1859	0.0000	0.0294	0.0098	0.0196	0.000	00000
PASSENGER 0.0000 0.0005 0.0000 0.00	8	FREIGHTER	1.2616	2.2709	0.0000	5.2482	0.0000	0.2019	0.1514	0.2523	0.000	0.5046
TANKER 0.2739 0.5191 0.0000 0.4181 0.0000 0.0288 0.0000 0.0721 0.0000 FREICHTER 0.3172 0.7353 0.0000 0.4470 0.0000 0.1586 0.0433 0.1586 0.0000 PASSENGER 0.0005 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	•	PASSENGER	0.0000	0.0036	0.000	0.0005	0.000	0.000	0.000	0.0000	0.000	0.0000
FREICHTER 0.3172 0.7353 0.0000 0.4470 0.0000 0.1586 0.0433 0.1586 0.0000 PASSENGER 0.0005 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	••	TANKER	0.2739	0.5191	0.0000	0.4181	0.000	0.0288	0.0000	0.0721	0.0000	0.0433
PASSENGER 0.0005 0.0007 0.0000 0.0005 0.0000 0.0000 0.0000 0.0000 0.0000	6	FREIGHTER	0.3172	0.7353	0.0000	0.4470	0.000	0.1586	0.0433	0.1586	0.000	0.0288
	9	PASSENGER	0.0005	0.0067	0.0000	0.0005	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000

			Table A.1.3		Rankings - U.S.	Flag, District, Re	Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Injuries	, Injuries			
	Bin				Leve	el III Intervention	Level III Intervention Strategy Importance	nce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifemving	Other
6	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	FREIGHTER	0.5747	0.7024	0.0000	1.8836	0.0000	0.1596	0.0639	0.6704	0.0000	0.0319
11	PASSENGER	0.0082	0.0144	0.0000	0.0031	0.0000	0.0010	0.0000	0.0051	00000	0.0021
11	TANKER	0.2642	0.1370	0.0000	0.1957	0.000	8600'0	0.0098	0.0881	0.0000	0.0294
13	FREIGHTER	0.2976	0.2276	0.0000	0.6128	0.0000	0.0175	0.0525	0.0525	0.0000	0.0175
13	PASSENGER	0.0232	0.2394	0.0000	0.1159	0.0000	0.0463	0.0232	0.0154	0.000	0.0000
13	TANKER	0.3048	0.5335	0.0000	0.8002	0.0000	0.0381	0.0000	0.1143	0.0000	0.1143
7	FREIGHTER	0.0278	0.0973	0.0000	0.3754	0.0000	0.000	0.0000	0.0417	0.0000	0.0000
7	PASSENGER	0.0051	0.0386	0.0000	0.0154	0.0000	0.0051	0.0026	0.0000	0.0000	0.0026
* 1	TANKER	0.1473	0.1740	0.000	0.3481	0.0000	0.0803	0.0402	0.1607	0.0000	0.0134
17	FREIGHTER	0.0015	0.0005	0.0000	0.0005	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000

Table A.1.4 Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Property Loss

			Table A.1.4 Ri		sk-Based Rankings - U.S. Flag, District, Relative Frequency, Property Loss	g, District, Relati	ive Frequency, P	roperty Loss			
	Bin				Leve	el III Intervention	Level III Intervention Strategy Importance	nce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifemving	Other
1	FREIGHTER	\$37,40	\$40,539	\$0	\$130,972	0\$	\$15,592	\$6,237	\$6,237	\$0	\$12,473
1	PASSENGER	661\$	\$2,787	0\$	\$1,194	0\$	0\$	661\$	\$299	\$0	8199
-	TANKER	\$2,917	176,88	0\$	\$7,955	\$0	\$530	\$265	\$1,061	\$0	0\$
2	Freighter	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$	80	0\$
2	PASSENGER	80	\$144	\$0	96\$	0\$	80	96\$	0\$	80	0\$
2	TANKER	\$0	\$0	\$0	80	\$0	\$0	\$0	0\$	80	0\$
	FREIGHTER	\$11,067	\$15,217	\$0	\$13,142	\$0	\$5,534	\$2,075	\$1,383	\$0	\$2,075
5	PASSENGER	\$0	\$3,508	\$0	\$626	\$0	\$1,503	\$251	\$626	\$0	\$138
\$	TANKER	\$704	\$626	\$0	\$547	\$0	\$782	878	0\$	\$0	878
7	FREIGHTER	\$5,631	\$16,894	\$0	\$15,285	\$0	\$4,022	\$804	\$1,609	\$0	\$1,609
7	PASSENGER	\$487	\$1,656	\$0	\$195	\$0	\$97	26\$	26\$	\$0	0\$
7	TANKER	\$1,099	\$687	\$0	\$1,306	\$0	\$206	\$69	\$137	\$0	0\$
**	FREIGHTER	\$55,826	\$100,487	\$0	\$232,237	80	\$8,932	\$6,699	\$11,165	\$0	\$22,330
**	PASSENGER	0\$	\$30	\$0	¥	0\$	80	\$0	0\$	\$0	\$0
•	TANKER	\$39,773	\$75,360	\$0	\$60,707	\$0	\$4,187	\$0	\$10,467	\$0	\$6,280
6	FREIGHTER	\$59,462	\$137,843	80	\$83,787	\$0	\$29,731	\$8,108	\$29,731	\$0	\$5,406
6	PASSENGER	\$194	\$2,524	80	\$194	0\$	0\$	0\$	7615	80	0\$

			Table A.1.4	1	nkings - U.S. Fla	g, District, Relati	Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Property Loss	орену Loss			
	Bin				Leve	III Intervention	Level III Intervention Strategy Importance	nce			
District	Service	Cargo/Poll.	Stecring	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0\$	0\$	80	0\$	0\$	0\$	0\$	0\$	\$0	0\$
11	FREIGHTER	\$34,273	\$41,889	\$0	\$112,339	\$0	\$9,520	\$3,808	\$39,985	S	\$1,904
11	PASSENGER	\$102	\$179	\$0	\$38	\$0	\$13	\$0	\$64	\$0	\$26
П	TANKER	\$2,156	\$11,18	\$0	\$1,597	\$0	\$80	\$80	\$719	0\$	\$240
13	FREIGHTER	\$45,602	\$34,872	\$0	\$93,886	\$0	\$2,682	\$8,047	\$8,047	\$0	\$2,682
13	PASSENGER	\$1,074	\$11,100	\$0	175,33	\$0	\$2,148	\$1,074	\$716	0\$	%
13	TANKER	\$2,296	\$4,017	\$0	\$6,026	\$0	\$287	0\$	\$861	S	\$861
14	FREIGHTER	\$56	\$197	\$0	\$761	\$0	\$0	\$0	\$85	\$0	0\$
14	PASSENGER	\$1,065	\$7,987	\$0	\$3,195	\$0	\$1,065	\$532	80	\$0	\$532
14	TANKER	\$7,110	\$8,403	\$0	\$16,806	\$0	\$3,878	\$1,939	\$7,757	80	\$646
17	FREIGHTER	\$309	\$103	\$0	\$103	\$0	\$0	\$0	\$0	\$0	%
17	PASSENGER	\$2	\$15	\$0	80	\$0	\$7	\$2	\$0	0\$	\$0
11	TANKER	0\$	80	\$0	08	80	80	\$0	\$0	80	\$0

Table A.1.5 Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Pollution

			Table A.1.5	6 1	Rankings - U.S.	Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Pollution	tive Frequency, 1	Pollution			
	Bin				ר	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	01	11	0	36	0	4	7	2	0	3
1	PASSENGER	0	0	0	0	0	0	0	0	0	0
1	TANKER	2	2	0	4	0	0	0	1	0	0
2	Freighter	0	0	0	0	0	0	0	0	0	0
2	PASSENGER	0	0	0	0	0	0	0	0	0	0
2	TANKER	0	0	0	0	0	0	0	0	0	0
5	FREIGHTER	26	36	0	31	0	13	\$	3	0	\$
5	PASSENGER	0	0	0	0	0	0	0	0	0	0
5	TANKER	-	-	0	1	0	1	0	0	0	0
7	FREIGHTER	-	2	0	2	0	0	0	0	0	0
7	PASSENGER	0	-	0	0	0	0	0	0	0	0
7	TANKER	13	**	0	15	0	2	1	2	0	0
**	FREIGHTER	187	336	0	777	0	30	22	37	0	75
ec.	PASSENGER	0	0	0	0 :	0	0	0	0	0	0
æ	TANKER	15	29	0	23	0	2	0	+	0	2
6	FREIGHTER	23	53	0	32	0	=	3	11	0	2
6	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Table A.1.5	12 1	Rankings - U.S.	Risk-Based Rankings - U.S. Flag, District, Relative Frequency, Pollution	itive Frequency,	Pollution			
	Bin				ין	Level III Intervention Strategy Importance	Strategy Import	ance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	, 0	0	0	0	0	0	0	0	0	0
11	FREIGHTER	4	5	0	13	0	1	0	\$	0	0
11	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	TANKER	40	21	0	29	0	1	1	13	0	4
13	FREIGHTER	2	2	0	\$	0	0	0	0	0	0
13	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	TANKER	1	2	0	4	0	0	0	1	0	1
14	FREIGHTER	26	92	0	354	0	0	0	39	0	0
14	PASSENGER	1	œ	0	3	0	1	1	0	0	-
14	TANKER	12	14	0	28	0	9	3	13	0	1
17	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	TANKER	0	0	0	0	0	0	0.	0	0	0

Table A.1.6 Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Deaths

		Other	0.0286	0.0016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0244	0.000	0.000	0.1087	0.000	0.000	0.0072	0.000
		Lifesaving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
		Hull	0.0143	0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0244	0.0000	0.0000	0.0543	0.000	0.000	0.0396	0.0000
, Deaths	ınce	Fire Prevention	0.0143	0.0016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0122	0.000	0.000	0,0326	0.000	0.0000	0.0108	0.0000
ualty Frequency,	Strategy Imports	Power Plant	0.0357	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0610	0.000	0.000	0.0435	0.0000	0.000	0.0396	0.0000
Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rankings - U.S.	2	Drills	0.3000	0.0096	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2317	0.0000	0.0000	1.1304	0.0000	0,0000	0.1115	0.0000
II I		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.1.6		Steering	0.0929	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2561	0.0000	0.0000	0.4891	0.0000	0.0000	0.1835	0.0000
		Cargo/Poll.	0.0857	0.0016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0854	0.0000	0.0000	0.2717	0.0000	0.0000	0.0791	0.0000
	Bin	Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
	8	District	1	-	1	2	2	2	\$	\$	8	7	7	7	80	80	6 0	6	6

			Table A	.1.6 Risk-Based	l Rankings - U.S	Table A.1.6 Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Deaths	malty Frequency	, Deaths			
	Bin				J	Level III Intervention Strategy Importance	Strategy Import	ance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0.0000	0.000	00000	0.000	00000	0.0000	0.0000	0.000	0.0000	0.0000
=	FREIGHTER	0.0744	0.0909	0.0000	0.2438	0.0000	0.0207	0.0083	8980:0	0.0000	0.0041
11	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.000	0.000
11	TANKER	0.1837	0.0952	0.0000	0.1361	0.0000	0.0068	8900'0	0.0612	0.0000	0.0204
13	FREIGHTER	0.1111	0.0850	0.000	0.2288	00000	0.0065	9610:0	0.0196	0.0000	0.0065
13	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.000	0.0000
13	TANKER	0.2857	0.5000	0.0000	0.7500	0.0000	0.0357	00000	0.1071	0.0000	0.1071
14	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.000.0	0.0000
14	PASSENGER	0.0078	0.0581	0.0000	0.0233	0.0000	0.0078	0:0039	0.0000	00000	0.0039
14	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
17	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

Table A.1.7 Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Injuries

			Table A.1.7		Rankings - U.S.	Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Injuries	nalty Frequency,	Injuries			
	Bin				צ	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	1.6286	1.7643	0.0000	5.7000	0.0000	0.6786	0.2714	0.2714	0.0000	0.5429
1	PASSENGER	0.0191	0.2677	0.0000	0.1147	0.0000	0.0000	0.0191	0.0287	0.0000	0.0191
1	TANKER	1.2310	1.6787	0.000	3.3574	0.0000	0.2238	0.1119	0.4477	0.0000	0.0000
2	Freighter	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
2	PASSENGER	0.0000	0.0180	0.0000	0.0120	0.0000	0.000	0.0120	0.000	0.0000	0.0000
2	TANKER	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
\$	FREIGHTER	1.4902	2.0490	0.0000	1.7696	0.0000	0.7451	0.2794	0.1863	0.0000	0.2794
\$	PASSENGER	0.0000	0.4206	0.0000	0.0751	0.0000	0.1803	0.0300	0.0751	0.0000	0.0150
\$	TANKER	0.4701	0.4179	0.0000	0.3657	0.0000	0.5224	0.0522	0.000	0.0000	0.0522
7	FREIGHTER	0.7256	2.1768	0.0000	1.9695	0.0000	0.5183	0.1037	0.2073	0.0000	0.2073
7	PASSENGER	0.0485	0.1650	0.0000	0.0194	0.0000	0.0097	0.0097	0.0097	0.0000	0.0000
7	TANKER	3.6190	2.2619	0.0000	4.2976	0.0000	0.6786	0.2262	0.4524	0.0000	0.0000
8	FREIGHTER	6.6576	11.9837	0.0000	27.6957	0.0000	1.0652	0.7989	1.3315	0.0000	2.6630
8	PASSENGER	0.000	0.0169	0.0000	0.0024	0.0000	0.000	0.000	0.0000	0.0000	0.0000
8	TANKER	2.3333	4.4211	0.000	3.5614	0.0000	0.2456	0.000	0.6140	0.0000	0.3684
6	FREIGHTER	2.2158	5.1367	0.000	3.1223	0.0000	1.1079	0.3022	1.1079	0.0000	0.2014
6	PASSENGER	0.0020	0.0254	0.0000	0.0020	0.0000	0.0000	0.0000	0.0020	0.0000	0,000

			Table A.1.7	II	Rankings - U.S.	Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Injuries	ualty Frequency,	Injuries			
	Bin				נ	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
11	FREIGHTER	4.6116	5.6364	0.0000	15.1157	0.0000	1.2810	0.5124	5.3802	0.000	0.2562
11	PASSENGER	0.0302	0.0528	0.0000	0.0113	0.0000	0.0038	0.0000	0.0189	0.0000	0.0075
=	TANKER	3.4898	1.8095	0.0000	2.5850	0.0000	0.1293	0.1293	1.1633	0.0000	0.3878
13	FREIGHTER	3.7778	2.8889	0.0000	87.T.T	0.0000	0.2222	0.6667	0.6667	0.0000	0.2222
13	PASSENGER	0.1601	1.6548	0.0000	0.8007	0.0000	0.3203	0.1601	0.1068	0.0000	0.000
13	TANKER	3.5238	6.1667	0.0000	9.2500	0.0000	0.4405	0.000	1.3214	0.0000	1.3214
14	FREIGHTER	0.3484	1.2194	0.0000	4.7032	0.0000	0.000	0.000	0.5226	0.0000	0.0000
14	PASSENGER	0.0388	0.2907	0.0000	0.1163	0.0000	0.0388	0.0194	0.000	0.0000	0.0194
14	TANKER	2.2520	2.6614	0.0000	5.3228	0.0000	1.2283	0.6142	2.4567	0.0000	0.2047
17	FREIGHTER	0.0375	0.0125	0.0000	0.0125	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
17	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000

Table A.1.8 Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Property Loss

			Table A.1.8	Risk-Ba	inkings - U.S. Flag,	sed Rankings - U.S. Flag, District, Casualty Frequency, Property Loss	Frequency, Propo	erty Loss			
	Bin				Leve	Level III Intervention Strategy Importance	rategy Importanc	, e			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving	Other
,	FREIGHTER	\$150,306	\$179,398	\$0	\$19,394	0\$	269'68	\$14,546	\$19,394	80	\$646
-	PASSENGER	0\$	80	\$0	\$0	0\$	\$0	0\$	0\$	\$0	\$0
1	TANKER	\$38,024	\$19,555	\$0	\$2,173	0\$	\$3,259	0\$	0\$	\$0	\$0
2	FREIGHTER	80	0\$	\$0	\$0	80	\$0	80	0\$	\$0	\$0
2	PASSENGER	0\$	· 0 \$	\$0	\$0	80	\$0	0\$	0\$	\$0	\$0
2	TANKER	80	0\$	\$0	\$0	0\$	\$0	80	0\$	\$0	\$0
\$	FREIGHTER	\$20,705	\$20,705	\$0	\$3,106	80	\$1,553	0\$	\$1,553	\$0	\$104
\$	PASSENGER	80	80	\$0	\$0	80	\$0	\$0	\$0	\$0	\$0
5	TANKER	\$11,806	\$8,142	\$0	\$2,036	80	\$0	\$0	\$0	\$0	\$81
7	FREIGHTER	\$52,483	\$21,735	\$0	\$1,060	80	\$1,590	\$1,060	\$3,181	\$0	\$114
7	PASSENGER	\$22,447	\$6,414	\$0	\$9,620	0 \$	\$3,207	\$6,414	\$0	\$0	\$0
7	TANKER	\$12,600	\$6,873	\$0	\$573	0\$	\$0	\$0	\$573	\$0	8
90	FREIGHTER	\$65,327	\$79,844	\$0	\$10,485	0\$	\$678	0\$	\$3,226	\$0	\$248
60	PASSENGER	0\$	0\$	\$0	\$0	80	\$0	\$0	\$0	\$0	\$0
60	TANKER	\$170,630	\$174,896	\$0	\$34,126	\$0	\$8,532	\$25,595	\$17,063	\$0	\$656
6	FREIGHTER	\$76,998	\$249,945	\$0	166'68\$	0\$	\$0	\$19,996	\$29,993	\$0	\$0
6	PASSENGER	\$0	80	80	\$0	\$0	80	0\$	\$	\$0	0\$

			Table A.1.8	.1.8 Risk-Based Ra	nkings - U.S. Flag.	Table A.1.8 Risk-Based Rankings - U.S. Flag. District, Casualty Frequency, Property Loss	Frequency, Propo	erty Loss			
	Bin				Leve	Level III Intervention Strategy Importance	rategy Importanc	, e			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Holl	Lifesaving	Other
6	TANKER	0\$	80	0\$	0\$	0\$	\$0	0\$	0\$	0\$	80
11	FREIGHTER	\$45,550	\$39,043	8 0	\$11,387	0\$	\$4,880	\$1,627	\$3,254	0\$	\$325
11	PASSENGER	\$1,908	\$0	0\$	\$0	0\$	0\$	0\$	0\$	0\$	0\$
11	TANKER	\$4,771	\$3,976	0\$	0\$	0\$	\$62\$	0\$	0\$	0\$	S.
13	FREIGHTER	\$61,790	\$42,778	0\$	\$11,883	0\$	\$7,130	\$4,753	175,23	0\$	\$1,358
13	PASSENGER	0\$	\$0	80	0\$	80	\$0	0\$	0\$	0\$	0\$
13	TANKER	0\$	0\$	0\$	80	\$0	0\$	0\$	0\$	0\$	0\$
14	FREIGHTER	\$803	\$229	0\$	0\$	0\$	\$115	0\$	\$0	0\$	8
14	PASSENGER	\$188,004	\$141,003	\$0	\$987,019	0\$	0\$	0\$	0\$	0\$	\$0
14	TANKER	\$23,685	\$5,921	\$0	80	\$0	0\$	\$17,764	0\$	0\$	\$846
17	FREIGHTER	\$4,270	\$3,559	\$0	80	\$0	80	80	\$2,135	0\$	80
11	PASSENGER	0\$	80	\$0	\$0	\$0	0\$	\$0	0\$	0\$	\$0
17	TANKER	0\$	\$0	\$0	0\$	\$0	\$0	80	0\$	0\$	O\$

Table A.1.9 Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Pollution

uency, Pollution	Importance	Plant Fire Hull Lifesaving Other Prevention	30 12 12 0 24	0 0 0 0	2 1 4 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	124 47 31 0 47	0 0 0 0	1 0 0 1	5 1 2 0 2	0 0 0 0 0	54 18 36 0 0	158 118 197 0 394	0 0 0 0	14 0 34 0 21	79 22 79 0 14	
Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Pollution	Level III Intervention Strategy Importance	Auxiliary Sys. Power Plant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Aankings - U.S. Flag,	Level I	Drills Au	248	0	31	0	0	0	296	0	8	21	0	344	4102	0	199	223	
11 -		Documents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Table A.1.9		Steering	7.7	-	15	0	0	0	342	0	6	23	4	181	2771	0	247	368	
		Cargo/Poll.	11	0	11	0	0	0	249	0	10	&	1	290	986	0	130	159	
	Bin	Service	FREIGHTER	PASSENGER	TANKER	Freighter	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	
	ä	District	-	-	_	2	2	2	\$	3	3	7	7	7	oc	•	•	6	

:			Table A.1.9		Rankings - U.S.	Risk-Based Rankings - U.S. Flag, District, Casualty Frequency, Pollution	ualty Frequency,	Pollution			
	Bin				T	Level III Intervention Strategy Importance	1 Strategy Import	висе			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0	0	0	0	0	0	0	0	0	0
11	FREIGHTER	32	39	0	105	0	6	4	37	0	2
=	PASSENGER	-	2	0	0	0	0	0	-	0	0
11	TANKER	525	272	0	389	0	19	61	175	0	58
13	FREIGHTER	29	22	0	09	0	2	S	\$	0	2
13	PASSENGER	0	-	0	0	0	0	0	0	0	0
13	TANKER	16	28	0	42	0	2	0	9	0	9
14	FREIGHTER	328	1150	0	4434	0	0	0	493	0	0
14	PASSENGER	œ	59	0	23	0	80	4	0	0	4
41	TANKER	178	210	0	421	0	26	49	194	0	91
17	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	PASSENGER	0	-	0	0	0	1	0	0	0	0
17	TANKER	0	0	0	0	0	0	0	0	0	0

A.2 Foreign Flag District Level Risk-Based Ranking Results

Bin data used in the risk-based ranking for district level data aggregation are shown in Table A.2.1. The risk-based ranking results are shown in Tables A.2.2 through A.2.9 as follows:

Table A.2.2 - Foreign Flag, District, Relative Frequency, Deaths, Table A.2.3 - Foreign Flag, District, Relative Frequency, Injuries, Table A.2.4 - Foreign Flag, District, Relative Frequency, Property Loss, Table A.2.5 - Foreign Flag, District, Relative Frequency, Pollution, Table A.2.6 - Foreign Flag, District, Casualty Frequency, Deaths, Table A.2.7 - Foreign Flag, District, Casualty Frequency, Injuries, Table A.2.8 - Foreign Flag, District, Casualty Frequency, Property Loss,

Table A.2.9 - Foreign Flag, District, Casualty Frequency, Pollution.

Table A.2.1 Risk-Based Ranking Bin Data Summary - USCG Districts, Foreign Flag

		pollution	827	0	100842	0	0	0	7435	0	14951	154337	295
	nences	Property Loss	\$1,772,330	\$0	\$231,500	\$0	\$0	0\$	\$2,233,554	\$0	\$265,111	\$4,652,225	\$20,000
Flag	Consequences	injuries	4	0	1	0	0	0	4	0	2	1	4
stricts, Foreign		Deaths	0	0	1	0	0	0	2	0	1	2	0
ary - USCG Dis	Casualty Frequency	Standard Deviation	0.0074	NOINSPEC TIONS	0.0167	NOINSPEC TIONS	NOINSPEC TIONS	NOINSPEC TIONS	0.0039	0.000	0.0199	0.0045	0.0651
Risk-Based Ranking Bin Data Summary - USCG Districts, Foreign Flag	Casualty	Freq.	0.07	NOINSPEC TIONS	0.16	NOINSPEC TIONS	NOINSPEC TIONS	NOINSPEC TIONS	0.04	0.00	0.18	90:0	0.49
Based Ranking	Relative	Freq.	0.07	0.00	90.0	0.00	0.00	0.00	0.08	0.00	0.05	0.14	0.05
Table A.2.1 Risk-	casualties		93	0	74	0	0	0	109	0	19	185	29
Tab	inspections		1249	0	474	0	0	0	2595	2	373	2947	59
	Bin	Service	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R
	H4-1	District	1		1	2	2	2	5	5	. 2	7	7

		pollution	4054	260268	0	41217	149	0	0	8698	2	339	7916	0	57	467
	iences	Property Loss	\$60,300	\$5,579,089	0\$	\$1,324,934	\$1,740,425	0\$	\$250,000	\$7,469,969	S	\$300,000	\$354,600	%	\$10,100	\$0
7lag	Consequences	injuries	1	7	0	6	1	0	0	4	0	0	2	0		0
ricts, Foreign I		Deaths	0	2	0	1	-	0	0	0	0	0	2	0	0	0
Risk-Based Ranking Bin Data Summary - USCG Districts, Foreign Flag	Casualty Frequency	Standard Deviation	0.0263	0.0028	NOINSPEC TIONS	0.0113	0.0131	NOINSPEC TIONS	0.0531	0.0039	0.1349	0.0202	0.0041	0.000	0.0408	0.0069
3in Data Summa	Casualty	Freq.	0.20	0.05	NOINSPEC TIONS	0.14	0.10	NOINSPEC TIONS	0.10	0.04	0.38	0.0	0.04	0.00	0.11	0.02
Based Ranking F	Relative	Freq.	0.04	0.19	0.00	0.10	0.04	0.00	0.00	90.0	0.00	0.01	90.0	0.00	0.01	0.01
Table A.2.1 Risk-l	casualties		47	243	0	134	53	0	3	83	5	17	82	0	7	11
Tab	inspections		233	5377	0	953	525	0	31	2273	13	195	2192	1	19	477
	Bin	Service	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER	PASSENGE R	TANKER	FREIGHTER
		District	7	80	8	∞	6	6	6	==	11	11	13	13	13	14

		Tat	ole A.2.1 Risk-Ba	Based Ranking	Bin Data Sumn	Table A.2.1 Risk-Based Ranking Bin Data Summary - USCG Districts, Foreign Flag	stricts, Foreign	Flag		
	Bin	inspections	casualties	Relative	Casualty	Casualty Frequency		Consequences	nences	
District	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	Property Loss	pollution
Bad Data 14	PASSENGE R	22	28	0.02	1.27	Bad Data	1	24	\$13,000,000	8
14	TANKER	212	13	10.0	90:0	0.0165	0	0	\$238,000	11
17	FREIGHTER	281	11	0.01	0.04	0.0116	0	0	\$157,700	111
17	PASSENGE R	2	0	0.00	0.00	0.000	0	0	0\$	0
17	TANKER	25	1	00:00	0.04	0.0392	0	1	0\$	0

Table A.2.2 Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Deaths

			Table A.2.2		tankings - Forei	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Deaths	lative Frequency	', Deaths			
	Bin				נ	Level III Intervention Strategy Importance	Strategy Importa	Ince			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifenving	Other
1	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
-	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
-	TANKER	0.0270	0.0139	0.0000	0.0015	0.0000	0.0023	0.000	0.000	0.000	0.000
2	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
2	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
2	TANKER	0.000	0.0000	0.0000	000000	0.0000	0.000	0.000	0.0000	0.0000	0.000
\$	FREIGHTER	0.0618	0.0618	0.000	0.0093	0.0000	0.0046	0.000	0.0046	0.0000	0.0031
\$	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
\$	TANKER	0.0224	0.0154	0.0000	0.0039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015
7	FREIGHTER	0.1529	0.0633	0.0000	0.0031	0.0000	0.0046	0.0031	0.0093	0.0000	0.0046
7	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	TANKER	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
•	FREIGHTER	0.1251	0.1529	0.0000	0.0201	0.0000	0.0185	0.0000	0.0062	0.0000	0.0124
*	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
80	TANKER	0.0309	0.0317	0.0000	0.0062	0.0000	0.0015	0.0046	0.0031	0.0000	0.0031
6	FREIGHTER	0.0077	0.0193	0.0000	0.0031	0.0000	0.0000	0.0015	0.0023	0.0000	0.0000
6	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

			Table A.2.2	li	Rankings - Forei	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Deaths	elative Frequenc	y, Deaths			
	Bin				L	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
6	TANKER	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
11	FREIGHTER	0.000	0.000	0.0000	0.000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
=	PASSENGER	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.000	00000	0.0000
=	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	00000	00000	0.0000
13	FREIGHTER	0.0402	0.0278	0.0000	0.0077	0.0000	0.0046	0.0031	0.0015	00000	0.0062
13	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	00000	0.0000
13	TANKER	0.000	0.000	0.000	0.000	0.0000	0.0000	00000	0.000	00000	0.0000
4	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	00000	000000	0.0000
Bad Data 14	PASSENGER	0.0000	0.0023	0.000	0.0162	0.0000	0.0000	00000	00000	0000'0	0.0000
14	TANKER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
17	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000
17	TANKER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	00000	00000	00000	0.0000

Table A.2.3 Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Injuries

			Table A.2.3	16	ankings - Foreig	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Injuries	lative Frequency	, Injuries			
	Bin				מ	Level III Intervention Strategy Importance	Strategy Imports	nce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	0.0958	0.1143	0.0000	0.0124	0.0000	0.0062	0.0093	0.0124	0.0000	0.0062
1	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
1	TANKER	0.0270	0.0139	0.0000	0.0015	0.0000	0.0023	0.0000	0.000	0.0000	0.0000
2	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
2	PASSENGER	000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
2	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
8	FREIGHTER	0.1236	0.1236	00000	0.0185	0.0000	0.0093	0.0000	0.0093	0.0000	0.0062
\$	PASSENGER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
\$	TANKER	0.0448	0.0309	0.0000	0.0077	0.0000	0.000	0.0000	0.0000	0.0000	0.0031
4	FREIGHTER	0.0764	0.0317	0.000	0.0015	0.0000	0.0023	0.0015	0.0046	0.0000	0.0023
7	PASSENGER	0.0216	0.0062	0.0000	0.0093	0.0000	0.0031	0.0062	0.0000	0.0000	0.0000
7	TANKER	0.0170	0.0093	0.0000	0.0008	0.0000	0.0000	0.0000	0.0008	0.0000	0.0000
*	FREIGHTER	0.4378	0.5351	0.0000	0.0703	0.0000	0.0649	0.0000	0.0216	0.0000	0.0432
&	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
8	TANKER	0.2780	0.2849	0.0000	0.0556	0.0000	0.0139	0.0417	0.0278	0.0000	0.0278
6	FREIGHTER	0.0077	0.0193	0.0000	0.0031	0.0000	0.0000	0.0015	0.0023	0.0000	0.000
6	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000

		:	Table A.2.3	i!	lankings - Foreig	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Injuries	lative Frequency	, Injuries			
	Bin				נו	Level III Intervêntion Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifemving	Other
6	TANKER	0.000	0.0000	0.0000	0.000	00000	0.000	0.000	0.0000	0.0000	0.0000
11	FREIGHTER	0.0865	0.0741	0.0000	0.0216	0.0000	0.0093	0.0031	0.0062	0.0000	0.0062
11	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	TANKER	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	FREIGHTER	0.0402	0.0278	0.0000	0.0077	0.0000	0.0046	0.0031	0.0015	0.0000	0.0062
13	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
13	TANKER	0.0023	0.0008	0.0000	0.0008	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
14	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
Bad Data 14	PASSENGER	0.000	0.0556	0.0000	0.3892	0.0000	0.0000	0.0000	0.0000	0000'0	0.000
14	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
11	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A.2.4 Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Property Loss

			Table A.2.4	Risk-Based Ran	kings - Foreign l	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Property Loss	ive Frequency, P	roperty Loss			
	Bin				J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	42426	80638	0	5474	0	2737	4106	5474	0	2737
1	PASSENGER	0	0	0	0	0	0	0	0	0	0
-	TANKER	6257	3218	0	358	0	536	0	0	0	0
2	FREIGHTER	0	0	0	0	0	0	0	0	0	0
2	PASSENGER	0	0	0	0	0	0	0	0	0	0
2	TANKER	0	0	0	0	0	0	0	0	0	0
	FREIGHTER	06689	06689	0	10349	0	5174	0	5174	0	3450
5	PASSENGER	0	0	0	0	0	0	0	0	0	0
5	TANKER	5937	4094	0	1024	0	0	0	0	0	409
7	FREIGHTER	355653	147291	0	7185	0	10777	7185	21555	0	10777
7	PASSENGER	108	31	0	46	0	15	31	0	0	0
7	TANKER	1024	559	0	47	0	0	0	47	0	0
8	FREIGHTER	348962	426510	0	90095	0	\$1698	0	17233	0	34465
6 0	PASSENGER	0	0	0	0	0	0	0	0	0	0
80	TANKER	40925	41948	0	8185	0	2046	6139	4092	0	4092
6	FREIGHTER	13440	33599	0	5376	0	0	2688	4032	0	0
9	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Table A.2.4	Risk-Based Ran	ıkings - Foreign	Table A.2.4 Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Property Loss	ive Frequency, F	roperty Loss			
	Bin				L	Level III Intervention Strategy Importance	Strategy Import	ance			
District	Service	Cargo/Poil.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0	193	0	0	0	0	0	0	0	0
11	FREIGHTER	161513	138440	0	40378	0	17305	82/28	11537	0	11537
11	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	TANKER	1390	1158	0	0	0	232	0	0	0	0
13	FREIGHTER	7119	4929	0	1369	0	821	548	274	0	1095
13	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	TANKER	23	∞	0	œ	0	0	0	0	0	0
14	FREIGHTER	0	0	0	0	0	0	0	0	0	0
Bad Data 14	PASSENGER	0	30116	0	210811	0	0	0	0	0	0
14	TANKER	735	184	0	0	0	0	551	0	0	184
17	FREIGHTER	731	609	0	0	0	0	0	365	0	0
17	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	TANKER	0	0	0	0	0	0	0	0	0	0

Table A.2.5 Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Pollution

			Table A.2.5	.5 Risk-Based R	ankings - Foreig	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Pollution	lative Frequency.	, Pollution			
	Bin				J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
-	FREIGHTER	20	24	0	3	0	1	2	3	0	1
ı	PASSENGER	0	0	0	0	0	0	0	0	0	0
1	TANKER	2725	1402	0	156	0	234	0	0	0	0
2	FREIGHTER	0	0	0	0	0	0	0	0	0	0
2	PASSENGER	0	0	0	0	0	0	0	0	0	0
2	TANKER	0	0	0	0	0	0	0	0	0	0
5	FREIGHTER	230	230	0	34	0	17	0	17	0	11
5	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	TANKER	335	231	0	58	0	0	0	0	0	23
7	FREIGHTER	11799	4886	0	238	0	358	238	715	0	358
7	PASSENGER	2	0	0	1	0	0	0	0	0	0
7	TANKER	69	38	0	3	0	0	0	3	0	0
8	FREIGHTER	16279	19897	0	2613	0	2412	0	804	0	1608
8	PASSENGER	0	0	0	0	0	0	0	0	0	0
8	TANKER	1273	1305	0	255	0	64	161	127	0	127
6	FREIGHTER	1	3	0	0	0	0	0	0	0	0
6	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Table A.2.5	11	ankings - Foreig	Risk-Based Rankings - Foreign Flag, District, Relative Frequency, Pollution	lative Frequency,	, Pollution			
	Bin				J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0	0	0	0	0	0	0	0	0	0
11	FREIGHTER	188	191	0	47	0	20	۲	13	0	13
11	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	TANKER	2	1	0	0	0	0	0	0	0	0
13	FREIGHTER	159	110	0	31	0	18	12	9	0	24
13	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	TANKER	0	0	0	0	0	0	0	0	0	0
14	FREIGHTER	3	1	0	0	0	0	0	0	0	0
Bad Data 14	PASSENGER	0	0	0	0	0	0	0	0	0	0
14	TANKER	0	0	0	0	0	0	0	0	0	0
17	FREIGHTER	1	0	0	0	0	0	0	0	0	0
17	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	TANKER	0	0	0	0	0	0	0	0	0	0

Table A.2.6 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Deaths

			Table A.2.6		lankings - Foreig	Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Deaths	sualty Frequency	', Deaths			
	Bin				ያ	Level III Intervention Strategy Importance	Strategy Imports	nce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	TANKER	0.0738	0.0380	0.0000	0.0042	0.0000	0.0063	0.000	0.000	0.0000	0.0000
2	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
2	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
\$	FREIGHTER	0.0308	0.0308	0.0000	0.0046	0.0000	0.0023	0.000	0.0023	0.0000	0.0015
\$	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
\$	TANKER	0.0777	0.0536	0.0000	0.0134	0.0000	0.000	0.000	0.000	0.0000	0.0054
7	FREIGHTER	0.0672	0.0278	0.0000	0.0014	0.0000	0.0020	0.0014	0.0041	0.0000	0.0020
4	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	FREIGHTER	0.0301	0.0368	0.0000	0.0048	0.0000	0.0045	0.000	0.0015	0.0000	0.0030
8	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
8	TANKER	0.0420	0.0430	0.000	0.0084	0.0000	0.0021	0.0063	0.0042	0.0000	0.0042
6	FREIGHTER	0.0190	0.0476	0.0000	0.0076	0.0000	0.0000	0.0038	0.0057	0.0000	0.0000
6	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

			Table A.2.		Rankings - Forei	6 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Deaths	asualty Frequenc	v. Deaths			
	Bin				7	Level III Intervention Strategy Importance	Strategy Import	ınce			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliery Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	FREIGHTER	0.0237	0.0164	0.000	0.0046	0.0000	0.0027	0.0018	0.0009	0.0000	0.0036
13	PASSENGER	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	TANKER	0.0000	0.0000	0.0000	0.000	0000'0	0.0000	0.0000	0.0000	0.0000	0.0000
14	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bad Data 14	PASSENGER	0.0000	0.1364	0.0000	0.9545	00000	00000	0.0000	0.0000	0.0000	0.000
14	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	FREIGHTER	0.000	0.0000	0.0000	0.0000	00000	00000	0.0000	0.0000	0.0000	0.0000
17	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.0000

Table A.2.7 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Injuries

		Other	0.0064	0.0000	0.0000	0.0000	0.0000	0.000	0.0031	0.0000	0.0107	0.0010	0.0000	0.0000	0.0104	0.000	0.0378	0.000	0.000
		Lifesaving	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000
		Hull	0.0128	0.0000	0.0000	0.0000	0.0000	0.0000	0.0046	0.0000	0.0000	0.0020	0.0000	0.0043	0.0052	0.0000	0.0378	0.0057	0.0000
y, Injuries	nce	Fire Prevention	9600.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0007	0.1356	0.0000	0.0000	0.0000	0.0567	0.0038	0.000
Table A.2.7 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Power Plant	0.0064	0.0000	0.0063	0.0000	0.0000	0.0000	0.0046	0.0000	0.0000	0.0010	0.0678	0.0000	0.0156	0.0000	0.0189	0.0000	0.0000
Flag, District, C	III Intervention	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
kings - Foreign	Level	Drills	0.0128	0.0000	0.0042	0.0000	0.0000	0.0000	0.0092	0.0000	0.0268	0.0007	0.2034	0.0043	0.0169	0.0000	0.0756	0.0076	0.0000
Risk-Based Ran		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.2.7		Steering	0.1185	0.0000	0.0380	0.0000	0.0000	0.0000	0.0617	0.0000	0.1072	0.0139	0.1356	0.0515	0.1289	0.0000	0.3872	0.0476	0.0000
		Cargo/Poll.	0.0993	0.0000	0.0738	0.0000	0.0000	0.0000	0.0617	0.0000	0.1555	0.0336	0.4746	0.0944	0.1054	0.0000	0.3778	0.0190	0.0000
	Bin	Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
		District	-	-	-	2	2	2	\$	5	\$	7	7	7	•	80	•	6	6

			Table A.2.7	2.7 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Injuries	nkings - Foreign	Flag, District, Casualty Free	Sasualty Frequer	ncy, Injuries			
	Bin				Leve	I III Intervention	Level III Intervention Strategy Importance	lance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000
11	FREIGHTER	0.0493	0.0422	0.0000	0.0123	0.000	0.0053	0.0018	0.0035	00000	0.0035
11	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	00000	0.0000
11	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
13	FREIGHTER	0.0237	0.0164	0.0000	0.0046	0.0000	0.0027	0.0018	0.0009	00000	0.0036
13	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
13	TANKER	0.0492	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000	0.0000	0.0000
Bad Data 14	PASSENGER	0.0000	3.2727	0.0000	22.9091	0.0000	0.0000	00000	0.0000	0000'0	0.000
14	TANKER	0.000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
17	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
17	TANKER	0.0000	0.0000	0.0000	0.0400	0.0000	0.0000	00000	0.0000	0.0000	0.0000

Table A.2.8 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Property Loss

			Table A.2.8 R	isk-Based Ranki	Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Property Loss	ag, District, Cas	ualty Frequency,	Property Loss			
ľ	Bin		**************************************		Leve	I III Intervention	Level III Intervention Strategy Importance	ance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	43989	52503	0	\$676	0	2838	4257	5676	0	2838
1	PASSENGER	0	0	0	0	0	0	0	0	0	0
1	TANKER	17094	8791	0	<i>LL</i> 6	0	1465	0	0	0	0
2	FREIGHTER	0	0	0	0	0	0	0	0	0	0
2	PASSENGER	0	0	0	0	0	0	0	0	0	0
2	TANKER	0	0	0	0	0	0	0	0	0	0
5	FREIGHTER	34429	34429	0	5164	0	2582	0	2582	0	1721
5	PASSENGER	0	0	0	0	0	0	0	0	0	0
5	TANKER	20612	14215	0	3554	0	0	0	0	0	1422
7	FREIGHTER	156284	64724	0	3157	0	4736	3157	9472	0	4736
7	PASSENGER	2373	8.19	0	1017	0	339	678	0	0	0
7	TANKER	\$694	3106	0	259	0	0	0	259	0	0
8	FREIGHTER	84044	102721	0	13489	0	12451	0	4150	0	8301
8	PASSENGER	0	0	0	0	0	0	0	0	0	0
80	TANKER	55611	57001	0	11122	0	2781	8342	1985	0	5561
9	FREIGHTER	33151	82877	0	13260	0	0	9630	9945	0	0
6	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Table A.2.8 R	isk-Based Ranki	ngs - Foreign Fl	ag, District, Cas	Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Property Loss	Property Loss			
	Bin				Leve	1 III Intervention	Level III Intervention Strategy Importance	ance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0	8065	0	0	0	0	0	0	0	0
11	FREIGHTER	92019	78873	0	23005	0	6886	3286	6573	0	6573
==	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	TANKER	9231	7692	0	0	0	1538	0	0	0	0
13	FREIGHTER	4206	2912	0	808	0	485	324	162	0	647
13	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	TANKER	497	166	0	166	0	0	0	0	0	0
14	FREIGHTER	0	0	0	0	0	0	0	0	0	0
Bad Data 14	PASSENGER	0	דברבדדו	0	12409091	0	0	0	0	0	0
14	TANKER	4491	1123	0	0	0	0	3368	0	0	1123
17	FREIGHTER	3367	2806	0	0	0	0	0	1684	0	0
17	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	TANKER	0	0	0	0	0	0	0	0	0	0

Table A.2.9 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Pollution

			Table A.2.9	Risk-Based Ranl	cings - Foreign F	lag, District, Ca	Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Pollution	y, Pollution			
	Bin				Leve	I III Intervention	Level III Intervention Strategy Importance	ance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
1	FREIGHTER	21	24	0	3	0	1	2	3	0	1
1	PASSENGER	0	0	0	0	0	0	, 0	0	0	0
1	TANKER	7446	3829	0	425	0	869	0	. 0	0	0
2	FREIGHTER	0	0	0	0	0	0	0	0	0	0
2	PASSENGER	0	0	0	0	0	0	0	0	0	0
2	TANKER	0	0	0	0	0	0	0	0	0	0
5	FREIGHTER	115	115	0	17	0	6	0	9	0	9
\$	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	TANKER	1162	802	0	200	0	0	0	0	0	80
4	FREIGHTER	5185	2147	0	105	0	157	105	314	0	157
7	PASSENGER	35	10	0	15	0	\$	10	0	0	0
7	TANKER	383	209	0	17	0	0	0	17	0	0
. 8	FREIGHTER	3921	4792	0	629	0	581	0	194	0	387
œ	PASSENGER	0	0	0	0	0	0	0	0	0	0
60	TANKER	1730	1773	0	346	0	86	259	173	0	173
6	FREIGHTER	3	7	0	-	0	0	1	1	0	0
6	PASSENGER	0	0	0	0	0	0	0	0	0	0

	Table A.			Risk-Based Ranl	kings - Foreign I	Flag, District, C	9 Risk-Based Rankings - Foreign Flag, District, Casualty Frequency, Pollution	y, Pollution			
	Bin				Leve	l III Intervention	Level III Intervention Strategy Importance	lance			
District	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	TANKER	0	0	0	0	0	0	0	0	0	0
11	FREIGHTER	107	62	0	27	0	11	4	∞	0	80
11	PASSENGER	0	. 0	0	0	0	0	0	0	0	0
11	TANKER	10	9	0	0	0	2	0	0	0	0
13	FREIGHTER	94	65	0	18	0	11	7	4	0	14
13	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	TANKER	3	1	0	1	0	0	0	0	0	0
14	FREIGHTER	7	2	0	0	0	1	0	0	0	0
Bad Data 14	PASSENGER	0	0	0	3	0	0	0	0	0	0
14	TANKER	0	0	0	0	0	0	0	0	0	0
17	FREIGHTER	2	2	0	0	0	0	0	1	0	0
17	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	TANKER	0	0	0	0	0	0	0	0	0	0

A.3 U.S. Flag Marine Safety Office Level Risk-Based Ranking Results

Bin data used in the risk-based ranking for district level data aggregation are shown in Table A.3.1. The risk-based ranking results are shown in Tables A.3.2 through A.3.9 as follows:

Table A.3.2 - U.S. Flag, MSO, Relative Frequency, Deaths, Table A.3.3 - U.S. Flag, MSO, Relative Frequency, Injuries, Table A.3.4 - U.S. Flag, MSO, Relative Frequency, Property Loss, Table A.3.5 - U.S. Flag, MSO, Relative Frequency, Pollution, Table A.3.6 - U.S. Flag, MSO, Casualty Frequency, Deaths, Table A.3.7 - U.S. Flag, MSO, Casualty Frequency, Injuries, Table A.3.8 - U.S. Flag, MSO, Casualty Frequency, Property Loss, Table A.3.9 - U.S. Flag, MSO, Casualty Frequency, Pollution.

Table A.3.1 Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag

		pollution	S	2	-	1648	0	285	0	0	0	0	30	0	0
	nences	property	0\$	\$25,400	0\$	\$6,055,88 2	\$152,700	\$508,900	\$0	\$200	\$6,050	\$0	\$15,000	0\$	0\$
lag	Consequences	injuries	0	4	0	38	9	31	0	0	0	0	2	0	0
ffices, U.S. F		Deaths	0	0	0	7	1	0	0	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	Casualty Freq.	Standard Deviation	0.0949	0.0156	0.0894	0.0314	0.0071	0.0315	0.0000	0.0175	0.0671	0.0949	0.0124	0.0000	NOINSPE CTIONS
Summary - M	Casualty	rreq.	0.10000	0.05314	0.20000	0.40816	0.03953	0.35217	0.00000	0.02500	0.10000	0.10000	0.03349	0.00000	NOINSPE CTIONS
ing Bin Data	Relative	rreq.	0.0005	0.0057	0.0021	0.0515	0.0154	0.0417	0.0000	0.0010	0.0010	0.0005	0.0036	0.0000	0.0000
k-Based Rank	casualties	į	1	11	4	100	30	81		2	2	-	7		
Table A.3.1 Ris	inspections		10	207	20	245	759	230	15	80	20	10	209	7	
T		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	BOS	BOS	BOS	NYC	NYC	NYC	POM	POM	POM	PRO	PRO	PRO	DAV
		District	-	1	-	-	1	-	-	-	-	-	-		2

		Ta	Table A.3.1 Risk-Ba	c-Based Rankii	ng Bin Data S	ummary - Ma	seed Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	fices, U.S. Fl	ag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	iences	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
2	DAV	PASSENGER	-		0.0000	0.0000	0.0000	0	0	0\$	0
2	DAV	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0 .	\$0	0
2	HUN	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
2	HUN	PASSENGER	20	-	0.0005	0.05000	0.0487	0	0	0\$	0
2	HUN	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
2	TOU	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
2	LOU	PASSENGER	62	2	0.0010	0.03226	0.0224	0	0	\$92,000	0
2	ron	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	%	0
2	мем	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$	0
2	MEM	PASSENGER	27	2	0.0010	0.07407	0.0504	0	0	\$300	0
2	мем	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0

Table A.3.1 Risk-Based	i i	k-Based	Ranki	ng Bin Data S	Summary - M	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	ffices, U.S. F	lag Consequences	lences	
_ •		inspections	casualties	Relative	Casualty	Freq.		Tonser.	nences	
1	Service				- kg : 1	Deviation	Deaths	injuries	property	pollution
	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
	PASSENGER	·		0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
l	PASSENGER	46	1	0.0005	0.02174	0.0215	0	0	0\$	0
	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
	PASSENGER	24		0.0000	0.00000	0.0000	0	0	0\$	0
	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	80	0
SLM	PASSENGER	145	7	0.0036	0.04828	0.0178	0	2	\$1,000	0

		pollution	0	0	0	0	13	0	0	3160	0	146	0	0	0
	ences	property	0\$	0\$	0\$	0\$	\$16,763	\$0	0\$	\$1,056,50	\$141,800	\$151,850	\$0	\$41,200	\$0
ад	Consequences	injuries	0	0 .	0	0	0	0	1	16	2	9	2	4	0
fices, U.S. Fl		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
rine Safety Of	Casualty Freq.	Standard Deviation	NOINSPE CTIONS	NOINSPE CTIONS	0.0000	NOINSPE CTIONS	0.0714	0.0211	0.0363	0.0417	0.0278	0.0533	0.1571	0.0153	0.0878
ummary - Ma	Casualty	Freq.	NOINSPE CTIONS	NOINSPE CTIONS	0.00000	NOINSPE CTIONS	0.26316	0.03030	0.03704	0.48611	0.11450	0.50000	0.33333	0.03822	0.16667
ng Bin Data S	Relative	ተ ጀ	0.0000	0.0000	0.0000	0.0000	0.0051	0.0010	0.0005	0.0360	0.0077	0.0227	0.0015	0.0031	0.0015
c-Based Ranki	casualties						10	2	1	70	15	44	3	9	3
Table A.3.1 Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	inspections				8		38	99	27	144	131	88	6	157	18
Ta		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	SLM	STP	STP	STP	BAL	BAL	BAL	HMR	HMR	HMR	PHI	PHI	PHI
		District	. 2	2	2	2	5	2	5	5	5	5	5	5	5

		ty pollution	00 1	0 00	0 0\$	0 00	0 0\$	0 0\$	000 140	000 50	50 87	,00 0	00 11	0 0\$	0 0\$	0 00	
	Consequences	property	\$270,000	\$60,300		\$25,300			\$405,000	\$59,000	\$37,250	\$1,128,00	\$7,900			\$25,000	
-lag	Conse	injuries	1	1	0	2	0	0	13	5	2	1	0	0	0	0	•
offices, U.S. Flag		Deaths	0	0	0	0	0	0	2	0	0	0	0	0	0	0	•
ised Ranking Bin Data Summary - Marine Safety Offices,	Casualty Freq.	Standard Deviation	0.1169	0.0450	0.0000	0.1025	0.0000	0.0000	0.0544	0.0352	0.1159	0.0901	0.0152	0.3536	0.0000	0.0235	1
Summary - Ma	Casualty	rreq.	0.76923	0.34821	0.00000	0.30000	0.00000	0.00000	0.72059	0.10526	0.68750	0.37931	0.03448	0.50000	0.0000	0.02381	
ing Bin Data	Relative	req.	0.0051	0.0201	0.0000	0.0031	0.0000	0.0000	0.0252	0.0041	0.0057	0.0057	0.0026	0.0005	0.0000	0.0005	• • • •
Risk-Based Rank	casualties		10	39		9			49	8	11	11	5	1		1	
Table A.3.1 Ris	inspections		13	112	1	20	37	2	89	16	16	29	145	2	5	42	
Ţ		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	
	Bin	MSO	WNC	WNC	WNC	СНА	СНА	СНА	JAC	JAC	JAC	MIA	MIA	MIA	SAV	SAV	
		District	5	5	5	7	7	7	7	L	7	7	7	7	7	Ĺ	

1		Table A.3.1 Risl	k-Based Ranki	ing Bin Data S	Summary - Ma	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	fices, U.S. Fl	ад		
Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
MSO	Service	.		Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
	FREIGHTER	28	8	0.0041	0.28571	0.0854	0	0	\$4,000	0
	PASSENGER	108	9	0.0031	0.05556	0.0220	0	0	\$87,300	20
	TANKER	25	13	0.0067	0.52000	0.0999	0	9	005\$	426
TAM	FREIGHTER	14	1	0.0005	0.07143	0.0688	0	1	0\$	0
TAM	PASSENGER	104	4	0.0021	0.03846	0.0189	0	0	\$10,000	1
TAM	TANKER	37	30	0.0154	0.81081	0.0644	0	10	\$95,700	1001
COR	FREIGHTER	8	8	0.0041	1.00000	0.0000	0	80	0\$	0
COR	PASSENGER	25	1	0.0005	0.04000	0.0392	0	. 0	0\$	0
COR	TANKER	25	12	0.0062	0.48000	0.0999	0	3	\$185,160	089
GAL	FREIGHTER	46	54	0.0278	1.17391	ERR	1	22	\$341,232	257
GAL	PASSENGER	36	2	0.0010	0.05556	0.0382	0	0	\$20	0
GAL	TANKER	32	8	0.0041	0.25000	0.0765	0	1	0\$	28
НОП	FREIGHTER	45	39	0.0201	0.86667	0.0507	0	14	\$0	13844
ноп	PASSENGER	16		0.0000	0.00000	0.0000	0	0	8 0	0
ноп	TANKER	30	12	0.0062	0.4000	0.0894	0	-	\$3,613,25 0	638
1										

		T	Table A.3.1 Risl	Risk-Based Ranki	ing Bin Data S	Summary - M	sed Ranking Bin Data Summary - Marine Safety Offices,	ffices, U.S. Flag	lag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	neuces	
District	MSO	Service			rreq.	ਮੂ ਜੁ	Standard Deviation	Deaths	injuries	property	pollution
80	МОВ	FREIGHTER	42	26	0.0134	0.61905	0.0749	0	9	\$481,100	139
8	МОВ	PASSENGER	82		0.0005	0.01220	0.0121	0	0	0\$	0
8	МОВ	TANKER	42	38	0.0196	0.90476	0.0453	0	6	\$101,700	158
8	MOR	FREIGHTER	16	1	0.0005	0.06250	0.0605	0	0	\$1,500	0
8	MOR	PASSENGER	5		0.0000	0.00000	0.0000	0	0	0\$	0
8	MOR	TANKER	5		0.0000	0.00000	0.0000	0	0	0\$	0
∞	NEW	FREIGHTER	133	96	0.0494	0.72180	0.0389	2	42	\$3,092,20 0	155
80	NEW	PASSENGER	233	6	0.0046	0.03863	0.0126	0	1	\$8,250	0
∞	NEW	TANKER	30	16	0.0082	0.53333	0.0911	0	8	\$145,000	21
80	PAT	FREIGHTER	73	27	0.0139	0.36986	0.0565	1	9	\$420,542	118
80	PAT	PASSENGER	15		0.0000	0.00000	0.0000	0	0	\$0	0
∞	PAT	TANKER	64	24	0.0124	0.37500	0.0605	0	9	\$20,155	38
6	BUF	FREIGHTER	38	30	0.0154	0.78947	0.0661	0	5	\$196,476	1250
6	BUF	PASSENGER	99	2	0.0010	0.03030	0.0211	0	0	\$5,000	0
6	BUF	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0

		T	Table A.3.1 Ris	isk-Based Ranki	ing Bin Data S	ummary - Ma	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	fices, U.S. Fl	ag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
District	MSO	Service			Freq.	rreq.	Standard Deviation	Deaths	injuries	property	pollution
6	СНІ	FREIGHTER	9		0.0000	0.00000	0.0000	0	0	\$0	0
6	СНІ	PASSENGER	96	2	0.0010	0.02083	0.0146	0	0	\$335,000	5
6	СНІ	TANKER	\$		0.0000	0.00000	0.0000	0	0	\$0	0
6	CLE	FREIGHTER	21	35	0.0180	1.66667	ERR		4	\$1,622,66 5	310
6	CLE	PASSENGER	20	2	0.0010	0.10000	0.0671	0	0	0\$	0
6	CLE	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
6	DET	FREIGHTER	16	7	0.0036	0.43750	0.1240	0	0	\$41,500	2
6	DET	PASSENGER	39	9	0.0031	0.15385	0.0578	0	0	\$0	0
6	DET	TANKER	1		0.0000	0.00000	0.0000	0	0	\$0	0
6	DOL	FREIGHTER	56	34	0.0175	0.60714	0.0653	0	5	\$265,500	7
6	DOL	PASSENGER	42		0.0000	0.00000	00000	0	0	0\$	0
6	DOL	TANKER	5		0.0000	0.00000	0.0000	0	0	\$0	0
6	MIL	FREIGHTER	31	6	0.0046	0.29032	0.0815	0	2	\$1,076,00	0
6	MIL	PASSENGER	23	1	0.0005	0.04348	0.0425	0	0	80	0

Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag		Standard Deviation Deaths injuries property pollution	0 00000 0 0 00000 0	2 0.1145 0 1 \$95,000 28	7 0.0107 0 1 \$15,000 0	E NOINSPE 0 0 \$0 0 CTIONS	E NOINSPE 0 0 \$0 0 0 CTIONS	0 0.0000 0 0 0000.0 0	E NOINSPE 0 0 \$0 0 CTIONS	0 0.0752 0 7 \$134,000 7	5 0.0444 0 0 \$0 0	E NOINSPE 0 0 \$0 0 CTIONS	7 0.0690 0 4 \$1,817,70 400 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0.0211 0 0 \$22,000 0	0.0798 0 0 \$22,000 0.0798 0 0 \$0
2	property	Ş	3	\$95,000	\$15,000	0\$	0\$	0\$	0\$	\$134,000	\$0	O\$	\$1,817,70	\$22,000	0\$	
C	Conse	injuries	0		-	0	0	0	0	7	0	0	4	0	0	
		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Casualty Freq.	Standard Deviation	0.000	0.1145	0.0107	NOINSPE CTIONS	NOINSPE CTIONS	0.0000	NOINSPE CTIONS	0.0752	0.0444	NOINSPE CTIONS	0.0690	0.0211	0.0798	
	Casualty	Freq.	0.00000	0.52632	0.01527	NOINSPE CTIONS	NOINSPE CTIONS	0.00000	NOINSPE CTIONS	0.58140	0.04545	NOINSPE CTIONS	0.35417	0.03030	0.08333	
	Relative	Freq.	0.0000	0.0051	0.0010	0.0000	00000	0.0000	0.000	0.0129	0.0005	0.0000	8800'0	0.0010	0.0005	
	casualties			10	2					25	1		17	2	1	
	inspections		1	61	131			9		43	22		48	99	12	
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	
	Bin	MSO	MIL	SIM	SIM	SIM	SSM	SSM	SSM	STB	STB	STB	TOL	TOL	TOL	
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	

		pollution	66	12	223	0	0	0	0	10	0	330	46	2636	46
	ences	property p	\$583,551	\$500	\$61,100	0\$	0\$	0\$	0\$	\$2,806	0\$	\$3,114,10 0	\$21,500	\$93,946	\$661,000
ад	Consequences	injuries	39	1	16	0	0	0	0	1	1	23	0	2	2
fices, U.S. Fl		Deaths	1	0	0	0	0	0	0	0	0	0	0	-	-
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	Casualty Freq.	Standard Deviation	0.0393	0.0155	0.0477	NOINSPE CTIONS	NOINSPE CTIONS	NOINSPE CTIONS	0.0000	0.0257	0.1265	0.0533	0.0198	0.0699	0.0746
Summary - Ma	Casualty	rreq.	0.66207	0.05288	0.73256	NOINSPE CTIONS	NOINSPE CTIONS	NOINSPE CTIONS	0.00000	0.06522	0.20000	0.60714	0.10000	0.47059	0.39535
ing Bin Data S	Relative	rreq.	0.0494	0.0057	0.0324	0.0000	0.0000	0.0000	0.0000	0.0031	0.0010	0.0263	0.0118	0.0124	0.0088
k-Based Ranki	casualties		96	11	63					9	2	51	23	24	17
Table A.3.1 Ris	inspections		145	208	86				13	92	10	84	230	51	43
Та		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	TOS	ros	ros	PAC	PAC	PAC	SDC	SDC	SDC	SFC	SFC	SFC	POR
		District	11	11	11	11	11	11	11	11	11	11	11	11	13

		T	Table A.3.1 Ris	Risk-Based Rank	ing Bin Data 9	Summary - Ma	sed Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	ffices, U.S. Fi	lag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
District	MSO	Service			req.	. .	Standard Deviation	Deaths	injuries	property	pollution
13	POR	PASSENGER	17	7	0.0036	0.41176	0.1194	0	0	\$26,500	5
13	POR	TANKER	102	92	0.0474	0.90196	0.0294	2	21	\$235,121	59
13	SEA	FREIGHTER	110	11	0.0396	0.70000	0.0437	0	32	\$4,548,35 0	218
13	SEA	PASSENGER	264	62	0.0319	0.23485	0.0261	0	15	\$668,875	2
13	SEA	TANKER	99	38	0.0196	0.57576	0.0608	1	16	\$43,500	110
13	TAC	FREIGHTER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
13	TAC	PASSENGER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
13	TAC	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
14	GUA	FREIGHTER	19	2	0.0010	0.10526	0.0704	0	1	0\$	0
14	GUA	PASSENGER	13	·	0.0000	0.00000	0.0000	0	0	\$0	0
14	GUA	TANKER			0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$ 0	0
14	HON	FREIGHTER	136	48	0.0247	0.35294	0.0410	0	26	\$54,700	25454

		Ţ	Table A.3.1 Ris	k-Based Rank	ing Bin Data 🤄	Summary - Ma	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, U.S. Flag	ffices, U.S. Fi	ag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
14	HON	PASSENGER	245	33	0.0170	0.13469	0.0218	1	\$	\$1,034,02 0	1010
14	NOH	TANKER	124	96	0.0494	0.77419	0.0375	0	26	\$1,255,30 0	2056
17	ANC	FREIGHTER	49	9	0.0031	0.12245	0.0468	0	1	\$200,000	5
11	ANC	PASSENGER	20	1	0.0005	0.05000	0.0487	0	0	\$600	0
17	ANC	TANKER	13	1	0.0005	0.07692	0.0739	0	0	\$0	0
11	JUN	FREIGHTER	27		0.0000	0.00000	0.0000	0	0	\$0	0
11	NOC	PASSENGER	78	12	0.0062	0.15385	0.0409	0	0	\$4,200	25
17	JUN	TANKER		·	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
17	VAL	FREIGHTER	4		0.0000	0.00000	0.0000	0	0	0\$	0
11	VAL	PASSENGER	21	2	0.0010	0.09524	0.0641	0	0	\$0	0
17	VAL	TANKER	2		0.0000	0.00000	0.0000	0	0	\$0	0

Table A.3.2 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths

		8	0.000.0	0.000.0	0.0000	0.0000	0.0000	0.000.0	0.000.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Lifesaving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	·	Hull	0.0000	0.0000	0.0000	0.0021	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Fire Prevention	0.0000	0.0000	0.0000	0.0021	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Seaths	Importance	Power Plant	0.0000	0.0000	0.0000	0.0051	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
. Flag, MSO, R	Level III	Drills	0.0000	0.000	0.0000	0.0433	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
I Rankings - U.S	•	Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Steering	0.0000	0.0000	0.0000	0.0134	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.3		Cargo/Poll.	0.0000	0.0000	0.0000	0.0124	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	BOS	BOS	BOS	NYC	NYC	NYC	POM	POM	POM	PRO	PRO	PRO	DAV	DAV	DAV	HUN	HUN
		District	1	1	1	1	1	1	-	1	-	1	1		2	2	2	2	2

requency, Deaths	on Strategy Importance	iary Sys. Power Plant Fire Hull Lifesaving Prevention	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	00000 000000 000000 000000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	000000 000000 000000 000000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	00000 000000 000000 000000	0.0000 0.0000 0.0000 0.0000	
Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys. Power Plant																			
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Level III Interve	Drills	0.0000	00000 0	0.0000	00000	0.0000	00000 0	0.0000	000000	000000	000000	000000	000000 00	000000 00	00000 00	000000	0.0000	0.0000	0.0000	
		Steering Documents	0.0000 0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	
Table A.3.2		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	
	Bin	District MSO	2 HUN	2 LOU	2 LOU	2 LOU	2 MEM	2 MEM	2 MEM	2 NAS	2 NAS	2 NAS	2 PAD	2 PAD	2 PAD	2 PIT	2 РП	2 PIT	2 SLM	2 SLM	

			Table A.3	٦,	1 Rankings - U.S	Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths)eaths			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving
2	STP	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
2	STP	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	STP	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
5	BAL	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
5	BAL	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	00000	0.000	0.0000	0.0000
5	BAL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
\$	HMR	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.000	0.0000
5	HMR	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
5	HMR	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
5	PHI	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
5	PHI	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
5	ЬНІ	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000
5	WNC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
\$	WNC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
5	WNC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
7	СНА	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	СНА	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
7	CHA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	JAC	FREIGHTER	0.0051	0.0113	0.000	0.0154	0.0000	0.0010	0.0010	0.0021	0.0000

		Table A.3.2		J Rankings - U.S	. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	beaths			
					Level III	Level III Intervention Strategy Importance	Importance			
Service		Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
SEN	PASSENGER	0.000.0	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
TANKER		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
FREIGHTER	TER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
PASSENGER	GER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TANKER		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
FREIGHTER	TER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
PASSENGER	GER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
TANKER	~	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FREIGHTER	TER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
PASSENGER	GER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
TANKER	~	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
FREIGHTER	TER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000
PASSENGER	GER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
TANKER		0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
FREIGHTER	TER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
PASSENGER	GER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
TANKER	~	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
FREIGHTER	TER	0.0026	0.0036	0.0000	0.0118	0.0000	0.0015	0.000	0.0010	0.0000
PASSENGER	GER	0.0000	0.0000	000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.2	II	d Rankings - U.S	Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Deaths			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
80	GAL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
80	нои	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	00000	0.000	0.0000
&	ноп	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
ac	нои	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
8	МОВ	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	00000	0.0000
ec	MOB	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
9 0	MOB	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
&	MOR	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
e c	MOR	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000
ec.	MOR	TANKER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000
90	NEW	FREIGHTER	0.0093	0.0196	0.0000	0.0463	0.0000	0.000	0.0000	0.0010	0.0000
••	NEW	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000
∞	NEW	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
•	PAT	FREIGHTER	0.0010	0.0036	0.0000	0.0036	0.0000	0.000	0.0015	0.0000	0.0000
∞	PAT	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
9 0	PAT	TANKER	0.0000	0.000	0,0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
6	BUF	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
6	BUF	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	BUF	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

		Lifesaving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Fire Prevention	0.000	0.0000	0.000	0.0010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000
Seaths	Importance	Power Plant	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
. Fiag, MSO, Re	Level III I	Drills	0.0000	0.0000	0.0000	0.0036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rankings - U.S		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 1		Steering	0.0000	0.0000	0.0000	0.0051	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.3.2		Cargo/Poll.	0.0000	0.0000	0.0000	0.0021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	FREIGHTER	PASSENGER	TANKIK	FREIGHTER	PASSENGER	TANKER	FREIGHTER												
	Bin	MSO	СНІ	СНІ	СНІ	CLE	CLE	CLE	DET	DET	DET	DUL	DUL	DUL	MIL	MIL	MIL	SIM	SIM	SIM	SSM
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

	- 1		-			 -	 7	—			7				T		1	-	1	-	-
		Lifesaving	00000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000
		Hull	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0093	0.000	0.000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000
		Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deaths	r Importance	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
i. Flag, MSO, R	Level III	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0191	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1 Rankings - U.S		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0:0000	0.0000	0.000	0.0000
7		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0088	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.3.		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0051	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	OSW	SSM	MSS	STB	STB	STB	TOL	TOL	TOL	ros	SOT	SOT	PAC	PAC	PAC	apc	SDC	SDC	SFC	SFC
		District	b	6	6	6	6	6	6	6	11	11	=	11	11	11	11	=	11	11	11

				TOTAL WILL THE TOTAL PARTY		amen former of the control of the co					
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11 SFC	U	TANKER	0.0046	0.0005	0.0000	0.0015	0.0000	0.000	0.0000	0.0021	0.0000
13 POR	κ	FREIGHTER	0.0036	0.0010	0.0000	0.0015	0.0000	0.0005	0.0005	0.0005	0.0000
13 POR	ŭ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
13 POR	×	TANKER	0.0134	0.0237	0.0000	0.0247	0.0000	0.0010	0.0000	0.0062	0.0000
13 SEA	∀	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 SEA	<	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 SEA	V	TANKER	0.0015	0.0026	0.0000	0.0093	0.0000	0.000\$	0.0000	0.0000	0.0000
13 TAC	C	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
13 TAC	ບູ	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
13 TAC	ن	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000
14 GUA	<u><</u>	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
14 GUA	<u>.</u>	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
14 GUA	<u><</u>	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000
14 HON	z	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 HON	z	PASSENGER	0.0010	0.0077	0.0000	0.0031	0.0000	0.0010	0.0005	0.000	0.0000
14 HON	z	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
17 ANC	ن	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
17 ANC	ن	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
17 ANC	ပ္	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.2	1 1	1 Rankings - U.S	S. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Deaths	Seaths			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
17	JUN	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.0000
11	JUN	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
17	JUN	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
17	VAL	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
17	VAL	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
17	VAL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A.3.3 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries

	-		Table A.3.3	ŧI	d Rankings - U.S	S. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	njuries			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
1	BOS	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.000	00000	0.000	0.0000
1	BOS	PASSENGER	0.0021	0.0082	00000	0.0103	0.0000	0.000	00000	0.000	0.0000
1	BOS	TANKER	0.0000	0.000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
1	NYC	FREIGHTER	0.2348	0.2544	0.0000	0.8218	0.0000	0.0978	0.0391	0.0391	0.000
1	NYC	PASSENGER	0.0000	0.0649	0.0000	0.0185	0.0000	0.000	0.0062	0.0093	0.0000
1	NYC	TANKER	0.1596	0.1916	00000	0.4789	0.0000	0.0319	0.0160	0.0479	0.000
1	POM	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.000
1	POM	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000
1	POM	TANKER	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000
1	PRO	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
1	PRO	PASSENGER	0.0010	0.0021	0.0000	0.0010	0.000	0.0000	0.000	0.000	0.0000
1	PRO	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000
2	DAV	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
2	DAV	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000
2	DAV	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.0000
2	HUN	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
2	HUN	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.3	ii i	d Rankings - U.S	. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	njuries			
	Bin					Level III 1	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	HUN	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
2	ron	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
2	n07	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
2	ron	TANKER	0.0000	00000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
2	MEM	FREIGHTER	0.000	0.0000	000000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
2	MEM	PASSENGER	0.000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
2	MEM	TANKER	0.000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	NAS	FREIGHTER	0.0000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	NAS	PASSENGER	0.0000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
2	NAS	TANKER	0.0000	00000	00000	0.0000	0.0000	0.000	0.000	0.000	0.000
2	PAD	FREIGHTER	0.0000	00000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.000
2	PAD	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
2	PAD	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000
2	PIT	FREIGHTER	0.0000	00000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000
2	PIT	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
2	PIT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
2	ггм	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000
2	SLM	PASSENGER	0.0000	0.0010	0.0000	0.0021	0.0000	0.000	0.000	0.000	0.000
2	SLM	TANKER	0.0000	00000	000000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

			Table A.3.3	II _	Risk-Based Rankings - U.S.	S. Flag, MSO, R	Flag, MSO, Relative Ftequency, Injuries	Injuries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	STP	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	00000	0.0000
2	STP	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
2	STP	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	00000	00000
ν.	BAL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	00000	00000
5	BAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
3	BAL	TANKER	0.000	0.0000	0.0000	0.0005	0.0000	0.000	0.0000	00000	00000
\$	HMR	FREIGHTER	0.0742	0.0824	0.0000	0.1318	0.0000	0.0577	0.0247	0.0165	0.0000
r	HMR	PASSENGER	0.0000	0.0072	0.0000	0.0021	0.0000	0.0041	0.0000	0.0021	0.0000
\$	HMR	TANKER	0.0278	0.0216	0.0000	0.0185	0.0000	0.0309	0.0031	0.000	0.0000
5	PHI	FREIGHTER	0.000	0.0000	0.0000	0.0021	0.0000	0.0000	0.0000	0.0000	0.0000
S ery	РНІ	PASSENGER	0.0000	0.0062	0.0000	0.0021	0.0000	0.0021	0.0000	0.0000	0.0000
8	РНІ	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
5	WNC	FREIGHTER	0.0015	0.0026	0.000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000
۰.	WNC	PASSENGER	0.0000	0.0093	0.000	0.0010	0.0000	0.0036	0.0010	0.0015	0.0000
5	WNC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
:-	СНА	FREIGHTER	0.0010	0.0021	0.0000	0.0021	0.0000	0.0010	0.0000	0.0000	0.0000
7	СНА	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	СНА	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	JAC	FREIGHTER	0.0335	0.0736	0.0000	0.1004	0.0000	0.0067	0.0067	0.0134	0.0000

		Lifesaving	0.000.0	0.000.0	0.0000	0.000.0	0.000.0	0.000.0	0.000.0	0.0000	0.000.	0.000.0	0.000.0	0.000.0	0.000.0	0.00.0	0.0000	0.000.0	0.000	0.0000	0.0000
		Lifes			_																
		Hull	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0103	0.0000	0.0000	0.0031	0.0227	0.0000
		Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0051	0.0000	0.0000	0.0000	0.0000	0.0000
njuries	Importance	Power Plant	0.0000	0.0021	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0051	0.0000	0.0000	0.0000	0.0340	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
. Flag, MSO, R	Level III I	Drills	0.0051	0.0021	0.0005	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0185	0.0005	0.0000	0.0515	0.0330	0.0000	0.0046	0.2606	0.0000
1 Rankings - U.S		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<u>س</u>		Steering	0.0103	0.0031	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0031	0.0000	0.0000	0.0309	0.0000	0.0000	0.0077	0.0793	0.0000
Table A.3.		Cargo/Poll.	0.0051	0.0031	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0154	0.0000	0.0000	0.0412	0.0000	0.0000	0.0031	0.0566	0.0000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	JAC	JAC	MIA	MIA	MIA	SAV	SAV	SAV	SJP	SJP	SJP	TAM	TAM	TAM	COR	COR	COR	GAL	GAL
		District	7	7	7	7	7	7	7	7	7	L	ı	L	7	7	8	8	ec	8	8

			Table A.3.	3	d Rankings - U.S	S. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	Injuries			
	Bin					Level III I	Level III Intervention Strategy Importance	Importance			
District	OSW	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
8	GAL	TANKER	0.0010	0.0010	0.0000	0.0005	0.0000	0.0005	0.0000	0.000\$	0.0000
8	пон	FREIGHTER	0.0288	0.0360	0.0000	0.1081	0.0000	00000	0.0000	0.0000	0.0000
90	ноп	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
8	пон	TANKER	0.0010	0.0021	0.0000	0.0010	0.0000	0.000	0.0000	0.0005	0.0000
es i	МОВ	FREIGHTER	0.0154	0.0216	0.0000	0.0185	0.0000	0.0031	0.0000	0.0062	0.0000
8	MOB	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
8	MOB	TANKER	0.0278	0.0742	0.0000	0.0417	0.0000	0.0046	0.0000	0.0000	0.0000
œ	MOR	FREIGHTER	0.0000	0.0000	0.0000	0,0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	MOR	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
œ	MOR	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
oc	NEW	FREIGHTER	0.1946	0.4109	0.0000	0.9732	0.0000	0.000	0.0000	0.0216	0.000
ec	NEW	PASSENGER	0.0000	0.0026	0.0000	0.0005	0.0000	0.000	0.000	0.0000	0.000
œ	NEW	TANKER	0.0082	0.0124	0.0000	0.0330	0.0000	0.000	0.000	0.0000	0.000
æ	PAT	FREIGHTER	0.0062	0.0216	0.0000	0.0216	0.0000	0.000	0.0093	0.0000	0.000
∞	PAT	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
••	PAT	TANKER	0.0154	0.0185	0.0000	0.0185	0.0000	0.000	0.0000	0.0031	0.0000
0	BUF	FREIGHTER	0.0026	0.0335	0.0000	0.0103	0.0000	0.0103	0.0000	0.0154	0.0000
٥	BUF	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
6	BUF	TANKER	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

			Table A.3	6	d Rankings - U.	S. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	njuries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	СНІ	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
6	СНІ	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	СНІ	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000
6	CLE	FREIGHTER	0.0082	0.0206	0.0000	0.0144	0.0000	0.0000	0.0041	0.0000	0.0000
6	CLE	PASSENGER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	CLE	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET .	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DUL	FREIGHTER	0.0180	0.0232	0.0000	0.0154	0.0000	0.0103	0.0000	0.0103	0.0000
6	DUI.	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DUL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MIL	FREIGHTER	0.000	0.0021	0.0000	0.0021	0.0000	0.0010	0.0010	0.0000	0.0000
6	MIL	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MIL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	SIM	FREIGHTER	0.0015	0.0015	0.0000	0.0005	0.0000	0.0005	0.0000	0.0000	0.0000
6	SIM	PASSENGER	0.0000	0.0005	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000
6	SIM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	SSM	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000

		Lifesaving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.3615	0.000	0.0330	0.000	0.000	0.0000	0.000	0.0005	0.0005	0.0355	0.000
	•	Fire Prevention	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0237	0.0000
njuries	Importance	Power Plant	0.0000	0.0000	0.0000	0.000	0.000	0.0021	0.0000	0.0000	0.1004	0.0000	0.0082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
. Flag, MSO, Re	Level III Ir	Drills	0.0000	0.0000	0.0252	0.0000	0.0000	0.0082	0.0000	0.0000	0.7430	0.0010	0.1318	0.0000	0.0000	0.0000	0.0000	0.0005	0.0005	0.2606	0.0000
Rankings - U.S		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
11 I		Steering	0.0000	0.0000	0.0288	0.0000	0.0000	0.0082	0.0000	0.0000	0.3414	0.0036	0.0989	0.0000	0.0000	0.0000	0.0000	0.0005	0.0005	0.0592	0.0000
Table A.3.3		Cargo/Poll.	0.0000	0.0000	0.0108	0.0000	0.0000	0.0041	0.0000	0.0000	0.2008	0.0005	0.1483	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0947	0.0000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER															
	Bin	MSO	SSM	SSM	STB	STB	STB	TOL	TOL	TOL	SOT	SOT	SOT	PAC	PAC	PAC	SDC	SDC	SDC	SFC	SFC
		District	6	6	6	6	6	6	6	δ	11	11	Ξ	11	11	11	11	11	17	11	11

			Table A	1.3.3 Risk-Base	d Rankings - U.S	3. Flag, MSO, R	Table A.3.3 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	Injuries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11	SFC	TANKER	0.0093	0.0010	00000	0.0031	0.0000	0.000	0.0000	0.0041	0.0000
13	POR	FREIGHTER	0.0072	0.0021	0.0000	0.0031	0.0000	0.0010	0.0010	0.0010	0.0000
13	POR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	POR	TANKER	0.1406	0.2487	0.0000	0.2595	0.0000	0.0108	0.0000	0.0649	0.0000
13	SEA	FREIGHTER	0.1648	0.1813	0.0000	0.5273	0.0000	0.000	0.0330	0.0330	0.0000
13	SEA	PASSENGER	0.0154	0.2240	0.0000	0.1159	0.0000	0.0463	0.0232	0.0077	0.0000
13	SEA	TANKER	0.0247	0.0412	0.0000	0.1483	0.0000	0.0082	0.0000	0.0000	0.0000
13	TAC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	TAC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
13	TAC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	GUA	FREIGHTER	0.0000	0.0005	0.0000	0.0005	0.0000	0.000	0.0000	0.0000	0.0000
14	GUA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	HON	FREIGHTER	0.0268	0.0803	0.0000	0.3481	0.0000	0.000	0.0000	0.0402	0.0000
14	HON	PASSENGER	0.0051	0.0386	0.0000	0.0154	0.0000	0.0051	0.0026	0.0000	0.0000
14	HON	TANKER	0.1473	0.1740	0,000	0.3481	0.0000	0.0803	0.0402	0.1607	0.0000
17	ANC	FREIGHTER	0.0015	0.0005	0.0000	0.0005	0.0000	0.0000	0.000	0.0000	0.0000
17	ANC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
17	ANC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.3		d Rankings - U.S	S. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Injuries	njuries			
	Bin					Level III	Level III Intervention Strategy Importance	· Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
17	JUN	FREIGHTER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
17	JUN	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
17	JUN	TANKER	0.0000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.0000
17	VAL	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
17	VAL	PASSENGER	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.0000
17	VAL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000

Table A.3.4 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss

		A. Carlotte and the second	Table A.3.4	11 —	lankings - U.S. F	lag, MSO, Rela	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
1	BOS	FREIGHTER	0\$	0 \$	0\$	0\$	80	0\$	0\$	0\$	0\$
1	BOS	PASSENGER	\$13	\$52	0\$	\$9\$	0\$	0\$	0\$	0\$	os
1	BOS	TANKER	0\$	0\$	0\$	0\$	0\$	\$0	0\$	9 \$	0\$
1	NYC	FREIGHTER	\$37,420	\$40,539	\$0	\$130,972	80	\$15,592	\$6,237	\$6,237	\$0
1	NYC	PASSENGER	0\$	\$1,651	80	\$472	80	0\$	\$157	\$236	80
1	NYC	TANKER	\$2,620	\$3,145	0\$	\$7,861	0\$	\$524	\$262	\$786	80
1	POM	FREIGHTER	0\$	80	\$0	\$0	\$0	\$0	\$0	0\$	\$0
1	POM	PASSENGER	0\$	\$0	80	80	0\$	0\$	0\$	\$0	O\$
1	POM	TANKER	0\$	\$3	0\$	\$0	80	\$0	\$0	\$3	\$0
-	PRO	FREIGHTER	0\$	80	\$0	\$0	80	0\$	S	0\$	\$0
-	PRO	PASSENGER	88	\$15	\$0	\$8	0\$	0\$	S	0\$	S
-	PRO	TANKER	80	\$0	0\$	80	80	0\$	S.	0\$	\$0
2	DAV	FREIGHTER	\$0	80	0\$	\$0	\$0	0\$	S	0\$	\$0
2	DAV	PASSENGER	0\$	80	0\$	\$	0\$	%	S	\$0	\$0
2	DAV	TANKER	80	80	0\$	\$0	\$0	0\$	0\$	0\$	0\$
2	HUN	FREIGHTER	0\$	80	80	80	\$0	0\$	%	8	0\$
2	HUN	PASSENGER	\$0	80	80	80	80	80	0\$	0\$	80

			Table A.3.	4 Risk-Based R	ankings - U.S. F	lag, MSO, Rela	Table A.3.4 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving
2	HUN	TANKER	0\$	80	0\$	0\$	0\$	0\$	0\$	0\$	80
2	non	FREIGHTER	0\$	\$0	80	0\$	0\$	\$0	\$0	80	\$
2	LOU	PASSENGER	0\$	\$47	0\$	0\$	0\$	\$0	80	\$0	0\$
2	no7	TANKER	0\$	80	80	\$ 0	0\$	\$0	\$0	\$0	S
2	MEM	FREIGHTER	0\$	\$0	\$0	0\$	80	\$0	80	\$0	0\$
2	МЕМ	PASSENGER	80	80	\$0	80	0\$	\$0	80	80	0\$
2	МЕМ	TANKER	0\$	0\$	0\$	0\$	0\$	\$0	80	\$0	0\$
2	NAS	FREIGHTER	0\$	0\$	80	\$0	80	\$0	\$0	80	0\$
2	NAS	PASSENGER	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	\$0
2	NAS	TANKER	0\$	0\$	\$0	80	0\$	\$0	\$0	0\$	9
2	PAD	FREIGHTER	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$
2	PAD	PASSENGER	0\$	0\$	0\$	0\$	0\$	0\$	80	80	0\$
2	PAD	TANKER	0\$	0\$	0\$	80	0\$	\$0	80	0\$	0\$
2	PIT	FREIGHTER	0\$	0\$	80	0\$	0\$	0\$	\$0	0\$	S
2	PIT	PASSENGER	0\$	80	0\$	80	0\$	\$0	\$0	\$0	\$0
2	PIT	TANKER	80	80	0\$	80	0\$	\$0	\$0	80	\$0
2	SLM	FREIGHTER	80	80	0\$	0\$	0\$	0\$	\$0	0\$	0\$
2	SLM	PASSENGER	\$0	\$1	80	\$1	0\$	\$0	\$0	0\$	S
2	ВГМ	TANKER	0\$	0\$	80	0\$	80	\$0	80	0\$	80

																		_ 1			
		Lifesaving	0\$	0\$	0\$	\$0	0\$	0\$	0\$	0\$	0 \$	0 \$	0\$	0\$	0\$	0 \$	0\$	0\$	%	0\$	\$0
		Hull	\$0	\$0	\$0	\$0	\$0	\$0	\$1,088	\$146	\$0	\$0	\$0	\$0	\$0	\$93	\$0	\$0	\$0	\$0	\$417
		Fire Prevention	\$0	\$0	\$0	80	\$0	\$0	\$1,632	\$0	878	\$0	\$0	\$0	\$0	\$62	\$0	0\$	80	\$0	\$209
erty Loss	Importance	Power Plant	0\$	\$0	80	6\$	OS.	80	\$3,808	\$292	\$782	\$0	\$21	0\$	0\$	\$217	80	\$13	0\$	80	\$209
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	Level III Intervention Strategy Importance	Auxiliary Sys.	0\$	80	0\$	0\$	0\$	0\$	\$0	0\$	0\$	80	80	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$
lag, MSO, Rela	Level III	Drills	\$0	\$0	\$0	0\$	\$0	80	\$8,704	\$146	\$469	\$0	\$21	80	\$139	\$62	\$0	\$26	0\$	\$0	\$3,128
ankings - U.S. F		Documents	0\$	\$0	80	0\$	80	0\$	\$0	80	0\$	\$0	80	0\$	0\$	0\$	0\$	0\$ '	0\$	\$0	80
		Steering	0\$	\$0	\$0	09\$	80	\$0	\$5,440	\$511	\$547	80	\$64	0\$	\$69\$	\$559	80	\$26	0\$	80	\$2,294
Table A.3.4		Cargo/Poll.	0\$	\$0	80	\$35	0\$	80	\$4,896	\$0	\$704	\$0	80	80	\$417	\$0	\$0	\$13	\$0	\$0	\$1,043
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	STP	STP	STP	BAL	BAL	BAL	HMR	HMR	HMR	РНІ	РНІ	РНІ	WNC	WNC	WNC	СНА	СНА	СНА	JAC
		District	2	2	2	5	5	\$	5	\$	8	\$	\$	S	8	\$	\$	7	7	7	7

			Table A.3.	.4 Risk-Based R	ankings - U.S. F	Flag, MSO, Rela	Table A.3.4 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	y Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving
7	JAC	PASSENGER	19\$	\$122	0\$	\$61	0\$	80	0\$	\$30	0\$
7	JAC	TANKER	\$58	\$58	\$0	\$38	0\$	\$38	0\$	0\$	0\$
7	MIA	FREIGHTER	\$581	\$2,904	80	\$581	0\$	\$1,162	0\$	0\$	80
7	MIA	PASSENGER	\$4	\$16	0\$	0\$	0\$	0\$	0\$	0\$	80
7	MIA	TANKER	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$
7	SAV	FREIGHTER	80	0\$	0\$	0\$	0\$	0\$	0\$	0\$	80
7	SAV	PASSENGER	\$0	0\$	0\$	0\$	0\$	\$13	\$13	0\$	\$0
7	SAV	TANKER	80	80	80	0\$	80	0\$	0\$	0\$	80
7	SJP	FREIGHTER	80	\$6	0\$	0\$	0\$	\$2	o s	0\$	\$0
7	SJP	PASSENGER	\$45	\$315	\$0	80	80	80	\$0	\$0	\$0
7	SJP	TANKER	\$1	0\$	80	\$2	0\$	\$0	0\$	0\$	\$0
7	TAM	FREIGHTER	80	0\$	\$0	80	0\$	80	0\$	0\$	\$0
7	TAM	PASSENGER	\$\$	\$10	0\$	0\$	0\$	80	0\$	0\$	\$0
7	TAM	TANKER	\$394	\$296	\$0	\$493	0\$	\$49	\$49	66\$	\$0
&	COR	FREIGHTER	0\$	0\$	80	0\$	0\$	80	\$0	\$0	\$0
80	COR	PASSENGER	0\$	0\$	0\$	0\$	0\$	0\$	0\$	\$0	\$0
88	COR	TANKER	161\$	\$477	80	\$286	0\$	0\$	0\$	161\$	0\$
88	GAL	FREIGHTER	\$879	\$1,230	80	\$4,041	0\$	\$527	0\$	\$351	S
∞	GAL	PASSENGER	\$0	80	0\$	\$0	\$0	\$0	\$0	0\$	0\$

			Table A.3.4	1	ankings - U.S. F	lag, MSO, Rela	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sya.	Power Plant	Fire Prevention	Hull	Lifesaving
œ	GAL	TANKER	0\$	0\$	0\$	0\$	0\$	\$0	80	0\$	0\$
8	ноп	FREIGHTER	0\$	0\$	0\$	0\$	0\$	80	0\$	0\$	\$0
80	ноп	PASSENGER	0\$	80	\$0	\$0	80	\$0	\$0	0\$	\$0
8	ноп	TANKER	\$3,721	\$7,442	\$0	\$3,721	\$0	\$0	0\$	198'1\$	80
60	MOB	FREIGHTER	\$1,239	\$1,734	\$0	\$1,486	\$0	\$248	\$0	\$495	\$0
•	МОВ	PASSENGER	\$ 0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	\$0
œ	МОВ	TANKER	\$314	\$838	80	\$471	\$0	\$52	\$0	0\$	\$0
•	MOR	FREIGHTER	80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
oc	MOR	PASSENGER	\$ 0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$
∞	MOR	TANKER	\$0	80	\$0	\$0	\$0	\$0	\$0	\$0	SS
&	NEW	FREIGHTER	\$14,330	\$30,253	80	\$71,652	0\$	\$0	\$0	\$1,592	os
90	NEW	PASSENGER	0\$	\$21	80	X	80	80	\$0	\$0	8
60	NEW	TANKER	\$149	\$224	\$0	\$597	\$0	\$0	\$0	80	æ
**	PAT	FREIGHTER	\$433	\$1,516	\$0	\$1,516	0\$	\$0	\$650	0\$	0\$
&	PAT	PASSENGER	80	\$0	0\$	0\$	0\$	0\$	0\$	0\$	0\$
œ	PAT	TANKER	\$52	\$62	0\$	\$62	80	\$0	\$0	\$10	0\$
6	BUF	FREIGHTER	1018	\$1,315	80	\$405	0\$	\$405	80	\$607	0\$
6	BUF	PASSENGER	80	\$3	0\$	0\$	0\$	\$0	80	0\$	0\$
6	BUF	TANKER	\$0	\$0	80	80	\$0	\$0	\$0	\$0	80

		Lifesaving	\$0	80	0\$	S	0\$	0\$	0\$	0\$	S	\$	S	0\$	9\$	0\$	0\$	0\$	\$0	80	80
		Hull	80	\$173	\$0	\$0	80	0\$	\$21	\$0	\$0	\$547	\$0	80	80	\$0	\$0	80	80	0\$	\$0
		Fire Prevention	0\$	\$0	0\$	\$1,671	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	\$554	0\$	0\$	\$0	80	0\$	0\$
enty Loss	Importance	Power Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	80	\$547	\$0	80	\$554	\$0	\$0	\$49	\$0	\$0	0\$
Table A.3.4 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	Level III Intervention Strategy Importance	Auxiliary Sys.	\$0	\$0	\$0	\$0	80	80	\$0	80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	\$0	\$0
ag, MSO, Relativ	Level III In	Drills	0\$	0\$	0\$	\$5,849	0\$	0\$	0\$	80	0\$	\$820	0\$	0\$	\$1,108	80	0\$	\$49	\$8	0\$	0\$
ankings - U.S. Fi		Documents	\$0	\$0	\$0	\$0	\$0	\$0	80	\$0	80	80	\$0	0\$	80	\$0	80	0\$	\$0	\$0	80
4 Risk-Based Ra		Steering	0\$	\$173	\$0	\$8,356	80	\$0	\$43	80	80	\$1,230	80	0\$	\$1,108	\$0	\$0	\$147	\$8	\$0	\$0
Table A.3.		Cargo/Poll.	80	\$173	\$0	. \$3,342	80	80	\$43	80	80	\$957	\$0	0\$	\$0	\$0	\$0	\$147	80	\$0	0\$
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	СНІ	СНІ	СНІ	CLE	CLE	CLE	DET	DET	DET	DUL	DUL	DOL	MIL	MIL	MIL	SIM	SIM	SIM	SSM
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

			Table A.3.4		ankings - U.S. F	Flag, MSO, Rela	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	SSM	PASSENGER	0\$	0\$	\$0	0\$	\$0	0\$	0\$	0\$	\$0
6	SSM	TANKER	0\$	0\$	\$0	0\$	\$0	0\$	0\$	0\$	80
6	STB	FREIGHTER	\$207	\$552	\$0	\$483	\$0	0\$	0\$	0\$	\$0
6	STB	PASSENGER	0\$	\$0	\$0	0\$	\$0	0\$	0\$	0\$	\$0
6	STB	TANKER	0\$	80	\$0	0\$	\$0	0\$	0\$	0\$	\$0
6	TOL	FREIGHTER	\$1,872	\$3,744	\$0	\$3,744	\$0	\$636	0\$	0\$	0\$
6	TOL	PASSENGER	0\$	\$23	80	0\$	\$0	0\$	0\$	0\$	\$0
6	TOL	TANKER	0\$	80	\$0	80	\$0	0\$	0\$	0\$	80
11	S07	FREIGHTER	\$3,005	\$5,108	\$0	\$11,118	\$0	\$1,502	0\$	\$5,409	\$0
11	S07	PASSENGER	80	\$2	\$0	\$1	\$0	80	\$0	\$0	\$0
11	ros	TANKER	\$566	\$378	\$0	\$503	\$0	\$31	\$31	\$126	\$0
11	PAC	FREIGHTER	0\$	0\$	80	0\$	\$0	\$0	S	0\$	8
11	PAC	PASSENGER	\$0	80	\$0	\$0	\$0	0\$	0\$	S	80
11	PAC	TANKER	0\$	\$0	0\$	0\$	\$0	\$0	0\$	9	S
11	SDC	FREIGHTER	8 0	\$0	0\$	0\$	\$0	0\$	0\$	S	0\$
=	SDC	PASSENGER	\$1	15	0\$	1\$	\$0	0\$	0\$	15	0\$
=	SDC	TANKER	80	80	80	0\$	\$0	0\$	0\$	S.	0\$
11	SFC	FREIGHTER	\$12,828	\$8,018	80	\$35,278	\$0	\$0	\$3,207	\$4,811	0\$
11	SFC	PASSENGER	\$66	\$66	0\$	80	\$0	\$11	0\$	244	0\$

	Bin					Level III I	Level III Intervention Strategy Importance	Importance			
District	Мѕо	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11 SFC	ູ	TANKER	\$435	\$48	0\$	\$145	0\$	0\$	0\$	\$194	0\$
13 POR	æ	FREIGHTER	\$2,383	\$681	\$0	\$1,021	\$0	\$340	\$340	\$340	\$0
13 POR	R	PASSENGER	\$14	\$27	\$0	\$0	\$0	0\$	80	\$14	80
13 POR	2	TANKER	\$1,574	\$2,785	0\$	\$2,906	0\$	\$121	80	\$726	0\$
13 SEA	٧	FREIGHTER	\$23,421	\$25,763	\$0	\$74,947	\$0	0\$	\$4,684	\$4,684	0\$
13 SEA	4	PASSENGER	\$689	\$9,988	80	\$5,166	\$0	\$2,067	\$1,033	\$344	0\$
13 SEA	4	TANKER	\$67	\$112	\$0	\$403	\$0	\$22	\$0	\$0	80
13 TAC	C	FREIGHTER	\$0	80	\$0	\$0	\$0	0\$	\$0	\$0	\$0
13 TAC	Ç	PASSENGER	80	80	80	\$0	\$0	0\$	0\$	\$0	0\$
13 TAC	ပ	TANKER	\$0	\$0	\$0	\$0	\$0	\$ 0	80	\$0	80
14 GUA	Į,	FREIGHTER	80	\$0	\$0	\$0	\$0	0\$	\$0	\$0	\$0
14 GUA	Y.	PASSENGER	\$0	80	\$0	\$0	\$0	0\$	\$0	\$0	0\$
14 GUA	¥	TANKER	80	\$0	\$0	0\$	80	0\$	\$0	\$0	જ
14 HON	Z	FREIGHTER	\$56	\$169	\$0	\$732	0\$	0\$	\$0	\$85	0\$
14 HON	Z	PASSENGER	\$1,065	\$7,987	\$0	\$3,195	80	\$1,065	\$532	\$0	\$0
14 HON	Z	TANKER	\$7,110	\$8,403	\$0	\$16,806	0\$	\$3,878	\$1,939	\$7,757	0\$
17 ANC	ږ	FREIGHTER	\$309	\$103	\$0	\$103	80	0\$	\$0	0\$	0\$
17 ANC	ي	PASSENGER	80	\$0	\$0	80	80	0\$	\$0	80	0\$
17 ANC	ار	TANKER	\$0	\$0	0\$	0\$	0\$	0\$	8	0,5	20

			Table A.3.4		ankings - U.S. P	Flag, MSO, Rela	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Property Loss	perty Loss			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
17	JUN	FREIGHTER	0\$	0\$	0\$	0\$	0\$	\$0	0\$	80	80
17	JUN	PASSENGER	\$2	\$11	0\$	0\$	\$0	\$6	0\$	0\$	80
17	JUN	TANKER	\$0	\$0	80	0\$	\$0	\$0	80	\$0	\$0
17	VAL	FREIGHTER	\$0	\$0	\$0	0\$	\$0	\$0	80	\$0	\$0
17	VAL	PASSENGER	\$0	\$0	\$0	0\$	80	\$0	0\$	\$0	\$0
17	VAL	TANKER	80	0\$	0\$	0\$	0\$	\$0	0\$	\$0	\$0

Table A.3.5 Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution

			Table A.3.3		Railkings - C.S.	. riag, moo, Ko	KISK-Based Kankings - U.S. riag, MSO, Kelalive Frequency, Foliution	ollution			
	Bin					Level III 1	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
1 1	BOS	FREIGHTER	0.00	0.00	0.00	00:00	0.00	00.00	0.00	0.00	0.00
1 1	BOS	PASSENGER	0.00	0.00	0.00	0.01	0.00	00.0	0.00	0.00	0.00
1	BOS	TANKER	0.00	0.00	0.00	0.00	0.00	00:0	0.00	0.00	0.00
1 1	NYC	FREIGHTER	10.18	11.03	0.00	35.64	0.00	4.24	1.70	1.70	0.00
1	NYC	PASSENGER	0.00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
1	NYC	TANKER	1.47	1.76	0.00	4.40	0.00	0.29	0.15	0.44	0.00
1 F	POM	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	POM	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 F	POM	TANKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	PRO	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00:0	0.00	0.00	0.00
1 1	PRO	PASSENGER	0.02	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00
1	PRO	TANKER	0.00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
2 D	DAV	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00:00	0.00	00:00	0.00
2 [DAV	PASSENGER	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
2 L	DAV	TANKER	0.00	0.00	0.00	0.00	0.00	00.00	0.00	00:00	0.00
2 F	HUN	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
2 F	HUN	PASSENGER	0.00	00.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00

			Table A.3.	3.5 Risk-Based Rankings	d Rankings - U.S.	. Flag, MSO, R	Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	y Importance			
District	MSO	Service	Cargo/Poll.	Steering ·	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	HUN	TANKER	0.00	0.00	0.00	00:0	00'0	00.00	0.00	00:00	0.00
2	TOU	FREIGHTER	00.0	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
2	non	PASSENGER	00.00	0.00	0.00	0.00	00'0	0.00	00:00	00'0	000
2	non	TANKER	00:00	0.00	0.00	0.00	0.00	0.00	00.00	00'0	00:00
2	МЕМ	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00.00	00.00	00.0	0.00
2	МЕМ	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	00.00	00:00	0.00
2	МЕМ	TANKER	00.00	0.00	0.00	0.00	0.00	0.00	00.00	00'0	0.00
2	NAS	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
2	NAS	PASSENGER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	NAS	TANKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
2	PAD	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	PAD	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	PAD	TANKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	PIT	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	PIT	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	PIT	TANKER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	SLM	FREIGHTER	0.00	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	SLM	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	SLM	TANKER	0.00	0.00	00.0	0.00	0.00	00.00	0.00	0.00	0.00

			Table A.3.5	II I	Risk-Based Rankings - U.S.	. Flag, MSO, R	Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	STP	FREIGHTER	00.0	00:0	0.00	0.00	0.00	00.0	0.00	00:00	00:00
2	STP	PASSENGER	00.00	00:00	00.00	0.00	0.00	00'0	0.00	00:00	00:00
2	STP	TANKER	00.00	00.00	0.00	0.00	0.00	00'0	0.00	00'0	00.00
5	BAL	FREIGHTER	0.03	0.05	00.00	0.00	0.00	0.01	0.00	00'0	0.00
5	BAL	PASSENGER	0.00	00.0	00.00	0.00	0.00	00'0	0.00	00:00	0.00
5	BAL	TANKER	0.00	00.00	0.00	0.00	0.00	00.0	0.00	00:00	0.00
\$	HMR	FREIGHTER	14.64	16.27	0.00	26.04	0.00	11.39	4.88	3.25	0.00
5	HMR	PASSENGER	00.00	00.00	00.0	0.00	0.00	00.0	0.00	00:00	0.00
5	HMR	TANKER	0.68	0.53	00.0	0.45	0.00	0.75	80.0	00'0	0.00
\$	PHI	FREIGHTER	00.00	00:00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
\$	PHI	PASSENGER	00.0	00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00
5	PHI	TANKER	00:00	00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00
\$	WNC	FREIGHTER	00:0	00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00
\$	WNC	PASSENGER	00:00	00.0	0.00	0.00	0.00	00.0	0.00	0.00	0.00
\$	WNC	TANKER	00:00	00:00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
7	СНА	FREIGHTER	00:00	00:00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
7	СНА	PASSENGER	00:0	00:00	0.00	0.00	00:00	00:00	0.00	0.00	0.00
7	СНА	TANKER	00.0	00.0	00:00	00:00	0.00	0.00	0.00	0.00	0.00
7	JAC	FREIGHTER	0.36	0.79	0.00	1.08	0.00	0.07	0.02	0.14	0.00

Bin Asservice Cargo/Poll. Steering Documents Drills Auxiliary Sys. Power Plant Fire Hu 1AC PASSENGER 0.05 0.10 0.00 0.05 0.00<				Table A.3	\ \cdot \ \	Rankings - U.S.	. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution	ollution			
MSO Service Cargo/Poll. Sterice Occumenta Documenta Drills Auxiliary Syr. Power Plant Fire Hu 1 AC PASSENGER 0.05 0.10 0.00 0.		Bin					Level III	Intervention Strategy	/ Importance			
JAC PASENGER 0.05 0.00 0.05 0.00	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
MIA TANKER 0.13 0.19 0.00 0.00 <t< th=""><th>7</th><th>JAC</th><th>PASSENGER</th><th>0.05</th><th>0.10</th><th>0.00</th><th>0.05</th><th>0.00</th><th>00:0</th><th>0.00</th><th>0.03</th><th>00'0</th></t<>	7	JAC	PASSENGER	0.05	0.10	0.00	0.05	0.00	00:0	0.00	0.03	00'0
MIA FREIGHTER 0.02 0.10 0.00 0.00 0.00 0.00 0.00 MIA PASSENGER 0.01 0.02 0.00 0.00 0.00 0.00 0.00 0.00 MIA TANKER 0.00	7	JAC	TANKER	0.13	0.13	0.00	0.09	0.00	0.09	00:00	0.00	0.00
MIA PASSENGER 0.01 0.02 0.00 0.00 0.00 0.00 0.00 MIA TANKER 0.00 <	7	MIA	FREIGHTER	0.02	0.10	0.00	0.02	0.00	0.04	00:00	0.00	0.00
AIA TANKER 0.00 <t< td=""><td>7</td><td>MIA</td><td>PASSENGER</td><td>10:0</td><td>0.05</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	7	MIA	PASSENGER	10:0	0.05	0.00	0.00	0.00	00.00	0.00	0.00	0.00
SAV PASSENGER 0.00	7	MIA	TANKER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00:00
SAV PASSENGER 0.00	7	SAV	FREIGHTER	00:0	0.00	0.00	0.00	0.00	00:0	0.00	0.00	0.00
SAV TANKER 0.00 <t< td=""><td>7</td><td>SAV</td><td>PASSENGER</td><td>00:00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00:00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	7	SAV	PASSENGER	00:00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
SIP FREIGHTER 0.00	7	SAV	TANKER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SIP PASSENGER 0.03 0.18 0.00	7	SJP	FREIGHTER	00:0	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00
SIP TANKER 1.10 0.22 0.00 1.32 0.00 <t< td=""><td>7</td><td>SJP</td><td>PASSENGER</td><td>0:03</td><td>0.18</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00.00</td><td>0.00</td></t<>	7	SJP	PASSENGER	0:03	0.18	0.00	0.00	0.00	0.00	0.00	00.00	0.00
TAM FREIGHTER 0.00	7	SJP	TANKER	01.10	0.22	0.00	1.32	0.00	00.00	0.00	0.00	0.00
TAM PASSENGER 0.00	7	TAM	FREIGHTER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAM TANKER 4.15 3.11 0.00 5.19 0.00 0.02 0.52 0.52 COR FREIGHTER 0.00 <	7	TAM	PASSENGER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COR FREIGHTER 0.00	7	TAM	TANKER	4.15	3.11	0.00	5.19	0.00	0.52	0.52	1.04	0.00
COR PASSENGER 0.00	8	COR	FREIGHTER	00'0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COR TANKER 0.70 1.75 0.00 1.05 0.00 <t< td=""><td>8</td><td>COR</td><td>PASSENGER</td><td>00:0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00:00</td><td>0.00</td><td>0.00</td></t<>	8	COR	PASSENGER	00:0	0.00	0.00	0.00	0.00	0.00	00:00	0.00	0.00
GAL FREIGHTER 0.66 0.93 0.00 3.04 0.00 0.40 0.00	8	COR	TANKER	0.70	1.75	0.00	1.05	0.00	00.00	00.0	0.70	0.00
	8	GAL	FREIGHTER	99.0	0.93	0.00	3.04	0.00	0.40	00.00	0.26	0.00
GAL PASSENGER 0.00 0.00 0.00 0.00 0.00	80	GAL	PASSENGER	0.00	0.00	0.00	00:00	0.00	00.0	00.0	0.00	0.00

		Lifesaving	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Hull	0.01	0.00	0.00	0.33	0.14	0.00	0.00	0.00	0.00	0.00	90:0	0.00	0.00	0.00	0.00	0.02	3.86	0.00	0.00
		Fire Prevention	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00:0	0.18	00.0	00:00	0.00	0.00	0.00
llution	Importance	Power Plant	0.01	0.00	0.00	0.00	0.07	00:00	0.08	00.0	00.0	00.00	0.00	0.00	0.00	0.00	0.00	0.00	2.57	0.00	0.00
Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution	Level III Intervention Strategy Importance	Auxiliary Sys.	00.0	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	000	00:00
Flag, MSO, Rel	Level III In	Drills	10:0	106.93	0.00	99.0	0.43	0.00	0.73	00:00	0.00	0.00	3.59	0.00	0.09	0.43	0.00	0.12	2.57	0.00	0.00
Rankings - U.S.		Documents	00:0	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
H		Steering	0.03	35.64	0.00	1.31	0.50	0.00	1.30	0.00	0.00	0.00	1.52	0.00	0.03	0.43	0.00	0.12	8.37	00:00	0.00
Table A.3.5		Cargo/Poll.	0.03	28.51	0.00	99:0	0.36	0.00	0.49	0.00	0.00	0.00	0.72	0.00	0.02	0.12	0.00	0.10	0.64	00:00	0.00
		Service	TANKER	FREIGHTER	PASSENGER	TANKER															
	Bin	MSO	GAL	НОЛ	НОО	ПОП	MOB	MOB	MOB	MOR	MOR	MOR	NEW	MHZ	NEW	PAT	PAT	PAT	HIR	BITE	BUF
		District	oc	~		•	«	, ac		~	•	o oc	o	0	•	o oc) a	o oc		, 0	6

			Table A.3.	v	Risk-Based Rankings - U.S.	. Flag, MSO, Ro	Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	СНІ	FREIGHTER	00.0	00.00	0.00	0.00	0.00	00:00	0.00	00'0	0.00
6	СНІ	PASSENGER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6	СНІ	TANKER	00'0	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6	CLE	FREIGHTER	0.64	1.60	0.00	1.12	0.00	0.00	0.32	0.00	0.00
6	CLE	PASSENGER	00.0	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6.	CLE	TANKER	00'0	00:00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
6	DET	FREIGHTER	00.0	00:00	0.00	0.00	0.00	00:00	0.00	00.0	0.00
6	DET	PASSENGER	00'0	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	DET	TANKER	00'0	00:00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
6	DOL	FREIGHTER	0.03	0.03	0.00	0.02	0.00	0.01	00.00	0.01	0.00
6	DOL	PASSENGER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	DOL	TANKER	00.0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
6	MIL	FREIGHTER	00.0	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
6	MIL	PASSENGER	0.00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
6	MIL	TANKER	00.0	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00
6	SIM	FREIGHTER	0.04	0.04	00.0	0.01	0.00	10.0	0.00	0.00	0.00
6	SIM	PASSENGER	00.0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
6	SIM	TANKER	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	SSM	FREIGHTER	00'0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Table A.3.5	li .	I Rankings - U.S.	. Flag, MSO, Re	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III 1	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	SSM	PASSENGER	0.00	00:00	0.00	0.00	00.00	00:00	0.00	00:00	0.00
6	SSM	TANKER	00:00	00'0	0.00	0.00	0.00	00:00	0.00	0.00	0.00
6	STB	FREIGHTER	10:0	0.03	0.00	0.03	0.00	0.00	0.00	0.00	00.0
6	STB	PASSENGER	00:00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
٥	STB	TANKER	00'0	00'0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	TOL	FREIGHTER	0.41	0.82	0.00	0.82	0.00	0.21	00:00	0.00	0.00
6	TOL	PASSENGER	00'0	00'0	0.00	0.00	0.00	0.00	00.00	0.00	0.00
6	TOL	TANKER	00.0	00:00	0.00	00:00	0.00	0.00	0.00	0.00	0.00
11	SO7	FREIGHTER	0.51	0.87	0.00	1.89	0.00	0.25	00.0	0.92	0.00
=	S07	PASSENGER	0.01	0.04	0.00	0.01	0.00	0.00	00.00	00.0	0.00
=	S07	TANKER	2.07	1.38	00:00	1.84	0.00	0.11	0.11	0.46	0.00
==	PAC	FREIGHTER	00:00	00:00	00.0	00.0	0.00	0.00	0.00	00.0	0.00
11	PAC	PASSENGER	00:00	00:00	00:00	00.0	0.00	0.00	00.0	00:00	00:00
=	PAC	TANKER	00:0	00:00	00.0	0.00	0.00	0.00	00.0	00.00	0.00
=	SDC	FREIGHTER	00:00	00:00	00:00	00.00	0.00	0.00	0.00	00:0	0.00
=	SDC	PASSENGER	10:0	10.0	00:0	0.01	0.00	0.00	0.00	0.01	0.00
=	SDC	TANKER	00:0	0.00	00:00	00.00	0.00	0.00	0.00	0.00	0.00
=	SFC	FREIGHTER	1.36	0.85	0.00	3.74	0.00	0.00	0.34	0.51	0.00
=	SFC	PASSENGER	0.14	0.14	0.00	0.00	0.00	0.02	00:00	0.09	0.00

			Table A.3.5	11	1 Rankings - U.S	. Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifemving
11	SFC	TANKER	12.22	1.36	0.00	4.07	00:0	00:00	0.00	5.43	0.00
13	POR	FREIGHTER	0.17	0.05	0.00	0.07	00:00	0.02	0.02	0.02	0.00
13	POR	PASSENGER	0.00	0.01	0.00	0.00	00:00	00'0	00:00	00.0	0.00
13	POR	TANKER	0.39	0.70	0.00	0.73	0.00	0.03	00.00	0.18	0.00
13	SEA	FREIGHTER	1.12	1.23	0.00	3.59	00:00	00:00	0.22	0.22	0.00
13	SEA	PASSENGER	0.00	0.03	0.00	0.02	00:00	0.01	00:00	00'0	0.00
13	SEA	TANKER	0.17	0.28	0.00	1.02	00:00	90.0	00:00	00'0	0.00
13	TAC	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00'0	0.00
13	TAC	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00'0	0.00
13	TAC	TANKER	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00	0.00
14	GUA	FREIGHTER	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00	0.00
14	GUA	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	GUA	TANKER	0.00	0.00	0.00	0.00	00:0	0.00	0.00	0.00	0.00
41	HON	FREIGHTER	26.21	78.64	0.00	340.78	00:00	0.00	0.00	39.32	0.00
14	HON	PASSENGER	1.04	7.80	0.00	3.12	00:00	1.04	0.52	0.00	0.00
14	HON	TANKER	11.65	13.76	00.00	27.53	00:00	6.35	3.18	12.70	0.00
17	ANC	FREIGHTER	0.01	0.00	0.00	0.00	00:0	0.00	0.00	0.00	0.00
17	ANC	PASSENGER	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00	0.00
17	ANC	TANKER	0.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00	0.00

		ļ	Table A.3.5		Rankings - U.S	Flag, MSO, R	Risk-Based Rankings - U.S. Flag, MSO, Relative Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Huli	Lifesaving
17	NOI	FREIGHTER	00:0	0.00	00'0	00'0	0.00	00:0	00:00	0.00	0.00
17	JUN	PASSENGER	10:0	90:0	00'0	00:0	0.00	0.04	0.00	0.00	0.00
17	NOI	TANKER	00:00	00:00	00'0	00.00	0.00	00:00	0.00	0.00	0.00
17	VAL	FREIGHTER	00'0	00:0	00'0	00.00	0.00	0.00	0.00	0.00	0.00
11	VAL	PASSENGER	00'0	00:00	00'0	0.00	0.00	0.00	0.00	0.00	0.00
17	VAL	TANKER	00.0	00'0	00'0	00:00	00.00	00:00	0.00	00.00	0.00

Table A.3.6 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths

				Table A.3.6	H	Rankings - U.S.	Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Deaths			
MSO Service Cargo/Poll. Steering Documents Drills Auxiliary Sys. Power Plant Fire 1 BOS FREIGHTER 0.0000 <t< th=""><th></th><th>Bin</th><th></th><th></th><th></th><th></th><th>Level III 1</th><th>Intervention Strategy</th><th>/ Importance</th><th></th><th></th><th></th></t<>		Bin					Level III 1	Intervention Strategy	/ Importance			
BOS FREIGHTER 0.0000<	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
BOS PASSENGER 0.0000<	-	BOS	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
BOS TANKER 0.0000 <th>-</th> <th>BOS</th> <th>PASSENGER</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.000</th> <th>0.0000</th>	-	BOS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
NYC FREIGHTER 0.0980 0.1061 0.0429 0.0409 0.0439 0.0163 NYC PASSENGER 0.0000 0.0277 0.0000 0.0079 0.0000	-	BOS	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
NYC PASSENGER 0.0000 0.0277 0.0000 0.0079 0.0000 0.0000 0.0000 NYC TANKER 0.0000	-	NYC	FREIGHTER	0.0980	0.1061	0.0000	0.3429	0.0000	0.0408	0.0163	0.0163	0.0000
NYC TANKER 0.0000 <td>-</td> <td>NYC</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0277</td> <td>0.0000</td> <td>0.0079</td> <td>0.0000</td> <td>0.000</td> <td>0.0026</td> <td>0.0040</td> <td>0.0000</td>	-	NYC	PASSENGER	0.0000	0.0277	0.0000	0.0079	0.0000	0.000	0.0026	0.0040	0.0000
POM FREIGHTER 0.0000<	-	NYC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
POM PASSENGER 0.0000<	-	POM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
PRO FREIGHTER 0.0000<	-	POM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
PRO FREIGHTER 0.0000<	-	POM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
PRO PASSENGER 0.0000<	-	PRO	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
PRO TANKER 0.0000 <td>-</td> <td>PRO</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td>	-	PRO	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
DAV FREIGHTER 0.0000<	-	PRO	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
DAV PASSENGER 0.0000<	2	DAV	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
DAV TANKER 0.0000 <td>2</td> <td>DAV</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	2	DAV	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HUN FREIGHTER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	2	DAV	TANKER	0.0000	0.0000	0,0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
HUN PASSENGER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	2	HUN	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2	HUN	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.6	H	Rankings - U.S	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casually Frequency, Deaths	Deaths			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	HUN	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
2	LOU	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	LOU	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
2	LOU	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
2	MEM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
2	МЕМ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
2	МЕМ	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
2	NAS	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
2	NAS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
2	NAS	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000
2	PAD	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
2	PAD	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000
2	PAD	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000
2	PIT	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000
2	PIT	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
2	PIT	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	SLM	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000
2	SLM	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000
2	SLM	TANKER	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

		Liferaving	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0588
		Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0294
caths	Importance	Power Plant	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0294
6 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Flag, MSO, Car	Level III In	Drills	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.4412
Rankings - U.S.		Documents	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3235
Table A.3		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1471
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER															
	Bin	MSO	STP	STP	STP	BAL	BAL	BAL	HMR	HMR	HMR	PHI	PHI	FHI	WNC	WNC	WNC	СНА	СНА	CHA	JAC
		District	2	2	2	\$	\$	\$	\$	\$	\$	\$	S	5	\$	\$	\$	7	7	7	7

		Lifesaving	0.0000	0.0000	0.0000	0.000	00000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000
		Hull	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.0435	0.0000
		Fire Prevention	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
caths	Importance	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0652	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Flag, MSO, Ca	Level III Ir	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5000	0.0000
Rankings - U.S.		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
11		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	00:00:0	0.1522	0.0000
Table A.3.6		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1087	0.0000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
	Bin	MSO	JAC	JAC	MIA	MIA	MIA	SAV	SAV	SAV	SIP	SIP	SIP	TAM	TAM	TAM	COR	COR	COR	GAL	GAL
		District	7	7	7	7	7	7	7	7	7	7	7	7	7	7	000	000	oc	• •	∞

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		Lifesaving	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
		Hull	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
		Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0411	0.000	0.0000	0.0000	0.0000	0.0000
eaths	Importance	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliery Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Flag, MSO, Ca	Level III 1	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6767	0.0000	0.0000	0.0959	0.0000	0.0000	0.0000	0.0000	0.0000
Rankings - U.S.		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2857	0.0000	0.0000	0.0959	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.3		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1353	0.0000	0.0000	0.0274	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	GAL	ноп	ноп	ноп	MOB	МОВ	МОВ	MOR	MOR	MOR	NEW	NEW	NEW	PAT	PAT	PAT	BUF	BUF	BUF
		District	ac)	6 0	œ	œ	•	80	∞	•	•	•	\$	oc	œ	oc	&	6 0	6	. 6	6

Deaths	y Importance	Power Plant Fire Hull Lifesaving Prevention	00000 00000 000000 000000	0,000 0,000 0,000 0,000	0.0000 0.0000 0.0000	0.0000 0.0952 0.0000 0.0000	00000 00000 000000 000000	00000 00000 000000 000000	0.000.0 0.000.0 0.000.0	00000 00000 000000 000000	00000 00000 000000 000000	0.000 0.0000 0.0000	00000 00000 000000 000000	00000 00000 000000 000000	00000 00000 000000 000000	0.000 0.0000 0.0000	00000 000000 000000	0.000 0.0000 0.0000	0.000.0 0.0000 0.0000 0.0000	0.000.0 0.000.0 0.000.0	00000
SO, Casualty Frequency	Level III Intervention Strategy Importance	s Auxiliary Sys.	0.0000 0.0000	0.0000	0.0000	0.3333 0.0000	0.0000 0.0000	0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	00000
Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Š	Documents Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000 0.0	00000
Table A.3.6 Risk-Based		Steering	0.0000	0.0000	0.0000	0.4762	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0000
Table		Cargo/Poll.	0.0000	0.0000	0.0000	0.1905	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	
	Bin	MSO	СНІ	СНІ	СНІ	CLE	CLE	CLE	DET	DET	DET	DOL	DUL	DOL	MIL	MIL	MIL	SIM	SIM	SIM	,100
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	

			Table A.3	.3.6 Risk-Based	Rankings - U.S.	. Flag, MSO, Ca	.6 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Seaths			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	SSM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
6	SSM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	STB	FREIGHTER	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
6	STB	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
6	STB	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
6	TOL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
6	TOL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
6	TOL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
11	SOT	FREIGHTER	0.0690	0.1172	0.0000	0.2552	0.0000	0.0345	0.000	0.1241	0.000
11	SOT	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000
=	SOT	TANKER	0.0000	0.0000	0000'0	0.0000	0.0000	0.0000	0.000	0.000	0.000
=	PAC	FREIGHTER	0.0000	0.0000	000000	0.0000	0.0000	0.000	0.000	0.000	0.0000
=	PAC	PASSENGER	0.0000	0.0000	000000	0.0000	0.0000	0.000	0.000	0.0000	0.000
=	PAC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
=	SDC	FREIGHTER	0.0000	0.0000	0.000.0	0.0000	0.0000	0.0000	0.000	0.000	0.000
11	SDC	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
=	SDC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
=	SFC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
=	SFC	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

			Table A.3.6	łl	1 Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Deaths			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11	SFC	TANKER	0.1765	0.0196	0.0000	0.0588	0.0000	0.000	0.0000	0.0784	0.0000
13	POR	FREIGHTER	0.1628	0.0465	0.0000	0.0698	0.0000	0.0233	0.0233	0.0233	0.0000
13	POR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
13	POR	TANKER	0.2549	0.4510	0.0000	0.4706	0.0000	0.0196	0.0000	0.1176	0.000
13	SEA	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
13	SEA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
13	SEA	TANKER	0.0455	0.0758	0.0000	0.2727	0.0000	0.0152	0.000	0.0000	0.0000
13	TAC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
13	TAC	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
13	TAC	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000
14	GUA	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0:00:0	0.000	0.000	0.000
41	GUA	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.000	0.000	0.000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
14	HON	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000
41	HON	PASSENGER	0.0082	0.0612	0.000	0.0245	0.0000	0.0082	0.0041	0.000	0.0000
14	HON	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
11	ANC	FREIGHTER	0.0000	0.0000	0.000	0.0000	00000	0.0000	0.000	0.000	0.000
17	ANC	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
17	ANC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000

			Table A.3.6		i Rankings - U.S	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Deaths	Seaths			
	Bin					Level III l	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeuving
17	NDI	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	NOr	PASSENGER	0.000	0.0000	0.0000	00000	0.0000	0.000	0.000	0.000	0.000
17	NOI	TANKER	0.000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000
17	VAL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
17	VAL	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
17	VAL	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A.3.7 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries

			Table A.3.7	H - 4	tankings - U.S. F	lag, MSO, Cast	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III I	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
	Bos	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
-	BOS	PASSENGER	0.0193	0.0773	0.0000	0.0966	0.0000	0.0000	0.0000	0.0000	0.000
-	BOS	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
	NYC	FREIGHTER	1.8612	2.0163	0.0000	6.5143	0.0000	0.7755	0.3102	0.3102	0.000
1	NYC	PASSENGER	0.000	0.1660	0.0000	0.0474	0.0000	0.0000	0.0158	0.0237	0.000
_	NYC	TANKER	1.3478	1.6174	0.0000	4.0435	0.0000	0.2696	0.1348	0.4043	0.000
-	POM	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
-	POM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
_	POM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
_	PRO	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
-	PRO	PASSENGER	9600:0	0.0191	0.0000	0.0096	0.0000	0.0000	0.0000	0.0000	0.0000
-	PRO	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000
2	DAV	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	DAV	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
2	DAV	TANKER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HUN	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HUN	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
									:		

Dimicit MSO Service Cargo/Poll. Sincrive Diction Diction Diving Prover Plan Fire Hull House Provestion Provestion Provestion Hull Hull				Table A.3.7	1	Rankings - U.S. I	Flag, MSO, Cas	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	juries			
MSO Service Chago/Poll. Seering Documenta Dollis Auxiliary Syn. Power Plant Fine Hall 2 HUN TANKER 0.0000 0.00		Bin					Level III	Intervention Strategy	' Importance			
HUN TANKER 0.0000 <th>histrict</th> <th>MSO</th> <th>Service</th> <th>Cargo/Poll.</th> <th>Steering</th> <th>Documents</th> <th>Drills</th> <th>Auxiliary Sys.</th> <th>Power Plant</th> <th>Fire Prevention</th> <th>Hull</th> <th>Lifesaving</th>	histrict	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
LOU FREIGHTER 0.0000<	2	HUN	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
LOU PASSENGER 0.0000<	2	no1	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
LOU TANKER 0.0000 <td>2</td> <td>Lou</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>000010</td> <td>0.0000</td>	2	Lou	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	000010	0.0000
MEM FREIGHTER 0.0000<	2	Lou	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
MEM PASSENGER 0.0000<	2	МЕМ	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.000	0.0000
MAS FREIGHTER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 NAS FREIGHTER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 NAS TANKER 0.0000	2	MEM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
NAS FREIGHTER 0.0000<	2	MEM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NAS PASSENGER 0.0000<	2	NAS	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
NAS TANKER 0.0000 <td>2</td> <td>NAS</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	2	NAS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
PAD FREIGHTER 0.0000<	2	NAS	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
PAD PASSENGER 0.0000<	2	PAD	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
PAD TANKER 0.0000 <td>2</td> <td>PAD</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td>	2	PAD	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
PIT FREIGHTER 0.0000<	2	PAD	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
PIT PASSENGER 0.0000<	2	PIT	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
PIT TANKER 0.0000 <td>2</td> <td>PIT</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td>	2	PIT	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
SLM FREIGHTER 0.0000<	2	PIT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000
SLM PASSENGER 0.0000 0.0138 0.0000 0.0276 0.0000 0.0000 0.0000 SLM TANKER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	2	SLM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.000
SLM TANKER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	2	SLM	PASSENGER	0.0000	0.0138	0.0000	0.0276	0.000	0.0000	0.000	0.000	0.000
1	2	SLM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

Steering Documents Drills Auxiliary Sys. Power Plant Fine Hull Life 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1111 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1000 0.0000 0.0000 0.0000 <				Table A.3.7	ı —	Rankings - U.S. I	Flag, MSO, Cas	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
MSO Service Cargo/Poll. Secring Documental Drills Auxiliary Sys. Provest Plana Fire Hull Fire Hull Fire Hull Frequence Co.000		Bin					Level III 1	Intervention Strategy	' Importance			
STP PREIGHTER 0.0000<	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
STP PASSENGER 0.0000<	2	STP	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
STP TANKER 0.0000 <td>2</td> <td>STP</td> <td>PASSENGER</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td>	2	STP	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
BAL FREIGHTER 0.0000<	2	STP	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
BAL PASSENGER 0.0000<	5	BAL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
BAL TANKER 0.0000 0.0000 0.0370 0.0370 0.0000 <td>5</td> <td>BAL</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td>	5	BAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
HMR FREIGHTER 1.0000 1.1111 0.0000 1.7778 0.0000 0.7778 0.333 0.2222 HMR PASSENGER 0.0000 0.1069 0.0305 0.0305 0.0501 0.0561 0.0305 0.0301 HMR TANKER 0.6136 0.4773 0.0000 0.4444 0.0000 0.6818 0.0000 0.0000 PHI PASSENGER 0.0000 0.0764 0.0000 0.0255 0.0000 0.0205 0.0000 0.	5	BAL	TANKER	0.0000	0.0000	0.0000	0.0370	0.0000	0.000	0.0000	0.0000	0.000
HMR PASSENGER 0.0000 0.1069 0.0305 0.0305 0.0305 0.0305 0.0305 0.0305 0.0305 0.0305 0.0305 0.0300 0.0318 0.0300 0.0302 0.0300<	5	HMR	FREIGHTER	1.0000	1.1111	0.0000	1.7778	0.0000	0.7778	0.3333	0.2222	0.000
HMR TANKER 0.6136 0.4773 0.0000 0.444 0.0000 0.6818 0.0662 0.0000 PHI FREIGHTER 0.0000 0.0000 0.0444 0.0000 0.0255 0.0000	5	HMR	PASSENGER	0.0000	0.1069	0.0000	0.0305	0.0000	0.0611	0.0000	0.0305	0.0000
PHI FREIGHTER 0.0000 0.0000 0.4444 0.0000<	5	HMR	TANKER	0.6136	0.4773	0.0000	0.4091	0.0000	0.6818	0.0682	0.000	0.000
PHI TANKER 0.0000 0.0764 0.0000 0.0255 0.0000 0.0255 0.0000 <td>5</td> <td>РНІ</td> <td>FREIGHTER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.4444</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td>	5	РНІ	FREIGHTER	0.0000	0.0000	0.0000	0.4444	0.0000	0.000	0.000	0.000	0.0000
PHI TANKER 0.0000 <td>5</td> <td>PHI</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0764</td> <td>0.0000</td> <td>0.0255</td> <td>0.0000</td> <td>0.0255</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td>	5	PHI	PASSENGER	0.0000	0.0764	0.0000	0.0255	0.0000	0.0255	0.0000	0.000	0.000
WNC FREIGHTER 0.3364 0.0000 0.0179 0.0000<	5	ЬНІ	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
WNC PASSENGER 0.0000 0.1607 0.0000 0.0179 0.0000 0.0000 0.0179 0.0268 0.0179 0.0268 0.0268 0.0268 0.0269 0.0269 0.0269 0.0269 0.0200<	5	WNC	FREIGHTER	0.2308	0.3846	0.0000	0.0769	0.0000	0.000	0.000	0.000	0.0000
WNC TANKER 0.0000 <td>5</td> <td>WNC</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.1607</td> <td>0.0000</td> <td>0.0179</td> <td>0.0000</td> <td>0.0625</td> <td>0.0179</td> <td>0.0268</td> <td>0.0000</td>	5	WNC	PASSENGER	0.0000	0.1607	0.0000	0.0179	0.0000	0.0625	0.0179	0.0268	0.0000
CHA FREIGHTER 0.1000 0.2000 0.0000 0.2000 0.2000 0.2000 0.2000 0.2000 0.0000<	5	WNC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
CHA PASSENGER 0.0000<	7	СНА	FREIGHTER	0.1000	0.2000	0.0000	0.2000	0.0000	0.1000	0.000	0.0000	0.0000
CHA TANKER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1912 0.1912 0.1912 0.1912 0.1912 0.1912 0.3824	7	СНА	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
JAC FREIGHTER 0.9559 2.1029 0.0000 2.8676 0.0000 0.1912 0.1912 0.3824	7	СНА	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
	7	JAC	FREIGHTER	0.9559	2.1029	0.0000	2.8676	0.0000	0.1912	0.1912	0.3824	0.0000

			Table A.3.7	1	Rankings - U.S.	Flag, MSO, Car	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	ПпН	Lifesaving
7	JAC	PASSENGER	0.1316	0.2632	0.0000	0.1316	0.0000	0.0000	0.0000	0.0658	0.0000
7	JAC	TANKER	0.3750	0.3750	0.0000	0.2500	0.0000	0.2500	0.0000	0.0000	0.0000
7	MIA	FREIGHTER	0.0345	0.1724	0.0000	0.0345	0.0000	0690'0	0.0000	00000	0.0000
7	MIA	PASSENGER	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	MIA	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
7	SAV	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.0000
7	SAV	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.0000
7	SAV	TANKER	0.0000	0.0000	0.0000	0.5000	0.000	0.0000	0.0000	0.0000	0.0000
7	SJP	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	SJP	PASSENGER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	SIP	TANKER	1.2000	0.2400	0.0000	1.4400	0.0000	0.0000	0.0000	0.0000	0.0000
7	TAM	FREIGHTER	0.0000	0.0000	0.0000	0.0714	0.000	0.0000	0.0000	0.0000	0.0000
7	ТАМ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
7	ТАМ	TANKER	2.1622	1.6216	0.0000	2.7027	0.000	0.2703	0.2703	0.5405	0.0000
*	COR	FREIGHTER	0.0000	0.0000	0.0000	8.0000	0.0000	0.0000	0.0000	0.0000	0.0000
80	COR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
∞	COR	TANKER	0.2400	0.6000	0.0000	0.3600	0.0000	0.0000	0.0000	0.2400	0.0000
∞	GAL	FREIGHTER	2.3913	3.3478	0.0000	11.0000	0.0000	1.4348	0.0000	0.9565	0.0000
*	GAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.7		tankings - U.S. F	lag, MSO, Cas	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III 1	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
•	GAL	TANKER	0.0625	0.0625	0.0000	0.0313	0.0000	0.0313	0.000	0.0313	0.000
•	НОП	FREIGHTER	1.2444	1.5556	0.0000	4.6667	0.0000	0.0000	0.000	0.000	0.000
•c	НОП	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
•	ноп	TANKER	0.0667	0.1333	0.0000	0.0667	0.0000	0.0000	0.000	0.0333	0.0000
80	MOB	FREIGHTER	0.7143	1.0000	0.0000	0.8571	0.0000	0.1429	0.0000	0.2857	0.0000
8	MOB	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
80	MOB	TANKER	1.2857	3.4286	0.0000	1.9286	0.0000	0.2143	0.0000	0.0000	0.0000
· •	MOR	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
•	MOR	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MOR	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
· · ·	NEW	FREIGHTER	2.8421	0000.9	0.000	14.2105	0.0000	0.0000	0.0000	0.3158	0.0000
oc	NEW	PASSENGER	0.0000	0.0215	0.000	0.0043	0.0000	0.0000	0.0000	0.0000	0.0000
•	NEW	TANKER	0.5333	0.8000	0.000	2.1333	0.0000	0.0000	0.0000	0.0000	0.0000
•	PAT	FREIGHTER	0.1644	0.5753	0.0000	0.5753	0.0000	0.0000	0.2466	0.0000	0.0000
•	PAT	PASSENGER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000
•	PAT	TANKER	0.4688	0.5625	0.0000	0.5625	0.0000	0.0000	0.0000	0.0938	0.000
6	BUF	FREIGHTER	0.1316	1.7105	0.0000	0.5263	0.0000	0.5263	0.0000	0.7895	0.0000
6	BUF	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	BUF	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

			Table A.3.7	ı	Rankings - U.S.	Flag, MSO, Cas	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	СНІ	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
6	СНІ	PASSENGER	0.0000	00000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	СНІ	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	CLE	FREIGHTER	0.7619	1.9048	0.0000	1.3333	0.0000	0.0000	0.3810	0.0000	0.0000
6	CLE	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	CLE	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	DET	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	DET	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	DUL	FREIGHTER	0.6250	0.8036	0.0000	0.5357	0.0000	0.3571	0.0000	0.3571	0.0000
6	DUL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
6	DUL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	MIL	FREIGHTER	0.0000	0.1290	0.0000	0.1290	0.0000	0.0645	0.0645	0.000	0.0000
6	MIL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MIL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	SIM	FREIGHTER	0.1579	0.1579	0.0000	0.0526	0.0000	0.0526	0.000	0.0000	0.0000
6	SIM	PASSENGER	0.0000	0.0076	0.0000	0.0076	0.0000	0.000	0.000	0.0000	0.0000
6	SIM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	SSM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Table A.3.7	-	Rankings - U.S. I	Flag, MSO, Cas	tisk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Liferaving
6	SSM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
6	SSM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	STB	FREIGHTER	0.4884	1.3023	0.0000	1.1395	0.0000	0.0000	0.0000	0.0000	0.0000
6	STB	PASSENGER	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	STB	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000
6	TOL	FREIGHTER	0.1667	0.3333	0.0000	0.3333	0.0000	0.0833	0.000	0.000	0.0000
6	TOL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	TOL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
11	SOI	FREIGHTER	2.6897	4.5724	0.0000	9.9517	0.0000	1.3448	0.000	4.8414	0.0000
=	SO7	PASSENGER	0.0048	0.0337	0.0000	0.0096	0.0000	0.000	0.000	0.000	0.0000
11	COS	TANKER	3.3488	2.2326	0.0000	2.9767	0.0000	0.1860	0.1860	0.7442	0.0000
11	PAC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
11	PAC	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
11	PAC	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
11	SDC	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
11	SDC	PASSENGER	0.0109	0.0109	0.0000	0.0109	0.0000	0.0000	0.000	0.0109	0.000
11	SDC	TANKER	0.0000	0.1000	0.0000	0.1000	0.0000	0.0000	0.000	0.1000	0.000
11	SFC	FREIGHTER	2.1905	1.3690	0.0000	6.0238	0.0000	0.000	0.5476	0.8214	0.0000
11	SFC	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000

			Table A.3.7	l1	Rankings - U.S.	Flag, MSO, Cat	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	uries			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11	SFC	TANKER	0.3529	0.0392	0.0000	0.1176	0.0000	0.000	0.000	0.1569	0.0000
13	POR	FREIGHTER	0.3256	0.0930	0.0000	0.1395	0.0000	0.0465	0.0465	0.0465	0.0000
13	POR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000
13	POR	TANKER	2.6765	4.7353	0.0000	4.9412	0.0000	0.2059	00000	1.2353	0.0000
13	SEA	FREIGHTER	2.9091	3.2000	0.0000	9.3091	0.0000	0.000	0.5818	0.5818	0.0000
13	SEA	PASSENGER	0.1136	1.6477	0.0000	0.8523	0.0000	0.3409	0.1705	0.0568	0.000
13	SEA	TANKER	0.7273	1.2121	0.0000	4.3636	0.0000	0.2424	0.000	00000	0.0000
13	TAC	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.0000
13	TAC	PASSENGER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
13	TAC	TANKER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
14	GUA	FREIGHTER	0.000	0.0526	0.0000	0.0526	0.0000	0.0000	0.000	0.0000	0.0000
14	GUA	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.000
14	HON	FREIGHTER	0.3824	1.1471	0.0000	4.9706	0.000	0.000	0.0000	0.5735	0.0000
14	HON	PASSENGER	0.0408	0.3061	0.0000	0.1224	0.000	0.0408	0.0204	0.0000	0.0000
14	HON	TANKER	2.3065	2.7258	0.0000	5.4516	0.000	1.2581	0.6290	2.5161	0.0000
17	ANC	FREIGHTER	0.0612	0.0204	0.0000	0.0204	0.000	0.0000	0.000	0.0000	0.0000
17	ANC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
17	ANC	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000

		S ui	0.000.0	0.0000	0.000.0	0.0000	0.000.0	0.0000
		Lifesaving	0.0	0.0	0.0	0.0	0.0	0.0
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
juries	/ Importance	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Flag, MSO, Ca	Level III	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rankings - U.S.		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	00000
Table A.3.7		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	JUN	JUN	JUN	VAL	VAL	VAL
		District	17	11	11-	17	17	17

Table A.3.8 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Property Damage

			Table A.3.8		nkings - U.S. Fla	ng, MSO, Casual	sk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Property Damage	erty Damage			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifestving
1	BOS	FREIGHTER	0\$	80	0\$	0\$	\$0	0\$	0\$	\$0	0\$
1	BOS	PASSENGER	\$123	\$491	0\$	\$614	\$0	0\$	\$0	0\$	0\$
1	BOS	TANKER	\$0	80	0\$	80	\$0	0\$	\$0	0\$	0\$
1	NYC	FREIGHTER	\$296,615	\$321,333	0\$	\$1,038,151	\$0	\$123,589	\$49,436	\$49,436	\$0
1	NYC	PASSENGER	0\$	\$4,225	0\$	\$1,207	\$0	0\$	\$402	\$604	\$0
1	NYC	TANKER	\$22,126	\$26,551	0\$	\$66,378	\$0	\$4,425	\$2,213	\$6,638	\$0
1	POM	FREIGHTER	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$	\$0
1	POM	PASSENGER	0\$	\$3	\$0	80	\$0	0\$	\$0	\$0	\$0
1	POM	TANKER	0\$	\$303	0\$	80	\$0	0\$	\$0	\$303	\$0
1	PRO	FREIGHTER	0\$	80	0\$	0\$	\$0	0\$	0\$	\$0	\$0
1	PRO	PASSENGER	\$72	\$144	0\$	\$72	\$0	0\$	0\$	\$0	\$0
1	PRO	TANKER	80	80	80	0\$	\$0	\$0	0\$	\$0	\$0
2	DAV	FREIGHTER	\$0	\$0	8 0	8 0	\$0	0\$	80	\$0	\$0
2	DAV	PASSENGER	\$0	0\$	80	8 0	\$0	80	80	0\$	80
2	DAV	TANKER	80	\$0	0\$	0\$	\$0	0\$	0\$	\$0	\$0
2	HUN	FREIGHTER	0\$	80	0\$	80	0\$	\$0	0\$	0\$	80
2	HUN	PASSENGER	80	0\$	80	80	\$0	\$0	0\$	0\$	80

	Ţ	Ī	_ [Ī	Ī	Ī				Ţ	Ţ	Ţ	_ [_ 1		Ī		<u> </u>	Ī	٦	
0 \$	0\$	S.	0\$	0\$	S	0\$	0\$	S	0\$	80	S	S	95	S	93	OS.	0\$	80	0\$	0\$	0\$	\$
\$0	0\$	\$0	0\$. \$0	\$0	0\$	\$0	80	\$0	80	\$0	0\$	0\$	0\$	0\$	9	0\$	\$0	0\$	\$0	\$0	%
0\$	0\$	S	0\$	\$0	\$11	0\$	80	\$0	\$0	\$0	80	0\$	0\$	S	0\$	O\$	0\$	0\$	80	0\$	0\$	\$0
0\$	0\$	0\$	0\$	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$0	0\$	8	\$0	\$0	\$0	\$0	\$0	\$0	0\$	\$ 0	\$441
0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	80	80	80	80	\$0	80	0\$	\$0	\$0	80	80	0\$	80
0\$	0\$	0\$	0\$	0\$	0\$	80	0\$	0\$	0\$	80	80	\$0	\$0	80	0\$	80	\$14	80	\$0	80	80	0\$
80	80	0\$	\$0	\$0	\$0	\$0	\$0	\$0	80	80	\$0	80	\$0	\$0	\$0	\$0	\$0	\$0	0\$ -	\$0	\$0	\$0
\$0	80	\$1,484	\$0	\$0	\$0	\$0	\$0	\$0	80	80	\$0	0\$	\$0	\$0	80	0\$	\$7	0\$	0\$	80	80	\$3,088
\$0	\$0	\$0	\$0	80	\$0	80	\$0	80	\$0	80	80	0\$	80	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	\$1,765
TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
HUN	non	пот	not	MEM	MEM	MEM	NAS	NAS	NAS	PAD	PAD	PAD	PIT	PIT	PIT	SLM	SLM	SLM	STP	STP	STP	BAL
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5

\$	BAL	PASSENGER	0\$	0\$	80	0\$	0\$	0\$	0\$	93	0\$
\$	BAL	TANKER	0\$	0\$	0\$	\$0	0\$	\$0	0\$	0\$	0\$
\$	HMR	FREIGHTER	\$66,031	\$73,368	\$0	\$117,389	\$0	\$51,358	\$22,010	\$14,674	0\$
5	HMR	PASSENGER	80	\$7,577	\$0	\$2,165	\$0	\$4,330	\$0	\$2,165	\$0
\$	HMR	TANKER	\$15,530	\$12,079	\$0	\$10,353	0\$	\$17,256	\$1,726	0\$	0\$
5	PHI	FREIGHTER	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$
\$	PHI	PASSENGER	0\$	2878	\$0	\$262	\$0	\$262	0\$	0\$	0\$
\$	ЬНІ	TANKER	0\$	0\$	\$0	\$0	\$0	\$0	\$0	0\$	\$0
5	WNC	FREIGHTER	\$62,308	\$103,846	\$0	\$20,769	\$0	\$0	0\$	\$0	0\$
\$	WNC	PASSENGER	0\$	169'68	\$0	\$1,077	\$0	\$3,769	\$1,077	\$1,615	\$0
\$	WNC	TANKER	\$0	0\$	\$0	\$0	\$0	\$0	0\$	0\$	0\$
7	СНА	FREIGHTER	\$1,265	\$2,530	\$0	\$2,530	\$0	\$1,265	\$0	\$0	0\$
7	СНА	PASSENGER	\$0	80	\$0	\$0	\$0	\$0	0\$	\$0	S \$
7	СНА	TANKER	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$	\$
7	JAC	FREIGHTER	\$29,779	\$65,515	\$0	\$89,338	\$0	\$5,956	\$5,956	\$11,912	Q\$
7	JAC	PASSENGER	\$1,553	\$3,105	\$0	\$1,553	\$0	\$0	0\$	\$776	9
7	JAC	TANKER	\$6,984	\$6,984	\$0	\$4,656	0\$	\$4,656	0\$	80	0\$
7	MIA	FREIGHTER	\$38,897	\$194,483	\$0	\$38,897	\$0	\$77,793	0\$	80	8
7	MIA	PASSENGER	\$54	\$218	\$0	80	0\$	\$0	\$	0\$	S
7	MIA	TANKER	80	\$0	- \$0	0\$	\$0	\$0	S	0\$	8
7	SAV	FREIGHTER	\$0	\$0	\$0	0\$	80	80	0\$	0\$	S
7	SAV	PASSENGER	\$0	\$0	\$0	0\$	0\$	\$65\$	\$65\$	0\$	S
7	SAV	TANKER	\$0	80	0\$	\$0	\$0	\$0	0\$	0\$	\$0

\$0
\$5,658
\$20
0\$
\$192
\$15,519
80
\$0
\$37,032
\$51,927
18
80
0\$
0\$
\$481,767
\$80,183
\$38,743
\$441,743
1718

8	NEW	TANKER	\$9,667	\$14,500	80	\$38,667	\$0	0\$	\$0	0\$	8
•	PAT	FREIGHTER	\$11,522	\$40,326	\$0	\$40,326	80	\$0	\$17,283	\$0	80
8	PAT	PASSENGER	0\$	0\$	80	\$0	\$0	0\$	0\$	\$0	0\$
8	PAT	TANKER	\$1,575	\$1,890	\$0	\$1,890	\$0	\$0	0\$	\$315	0\$
6	BUF	FREIGHTER	\$5,170	\$67,215	0\$	\$20,682	0\$	\$20,682	0\$	\$31,023	\$0
6	BUF	PASSENGER	0\$	\$76	\$0	\$0	80	0\$	0\$	\$0	0\$
6	BUF	TANKER	0\$	0\$	\$0	\$0	\$0	0\$	0\$	\$0	0\$
6	СНІ	FREIGHTER	0\$	0\$	\$0	\$0	0\$	0\$	0\$	0\$	0\$
6	СНІ	PASSENGER	\$3,490	\$3,490	80	\$0	0\$	80	0\$	\$3,490	0\$
6	СНІ	TANKER	0\$	80	\$0	\$0	0\$	0\$	0\$	\$0	0\$
6	CLE	FREIGHTER	\$309,079	\$772,698	80	\$540,888	0\$	0\$	\$154,540	0\$	0\$
6	CLE	PASSENGER	80	80	\$0	\$0	0\$	\$0	0\$	\$0	0\$
6	CLE	TANKER	0\$	0\$	0\$	80	0\$	0\$	0\$	\$0	0\$
6	DET	FREIGHTER	\$5,188	\$5,188	\$0	0\$	0\$	\$0	0\$	\$2,594	0\$
6	DET	PASSENGER	0\$	\$0	\$0	80	0\$	\$0	\$0	80	0\$
6	DET	TANKER	\$0	\$0	\$0	0\$	0\$	\$0	0\$	0\$	0\$
6	DUL	FREIGHTER	\$33,188	\$42,670	\$0	\$28,446	0\$	\$18,964	0\$	\$18,964	0\$
6	DUL	PASSENGER	\$0	\$0	\$0	0\$	0\$	\$0	0\$	0\$	0\$
6	DUL	TANKER	\$0	\$0	\$0	0\$	0\$	\$0	0\$	0\$	0\$
6	MIL	FREIGHTER	80	\$69,419	- \$0	\$69,419	0\$	\$34,710	\$34,710	0\$	\$0
6	MIL	PASSENGER	80	80	80	80	0\$	\$0	\$0	0\$	\$0
6	MIL	TANKER	\$0	0\$	\$0	0\$	0\$	\$0	\$0	0\$	\$0
6	SIM	FREIGHTER	\$15,000	\$15,000	\$0	\$5,000	80	\$5,000	0\$	0\$	0\$

200	0\$	0\$	3	0 \$	\$0	0\$	9	0\$	0\$	0\$	0\$	0\$	3	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	\$0
0\$	0\$	\$0	0\$	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$72,441	0\$	\$2,842	80	0\$	0\$	0\$	\$31	\$0	\$111,218	\$374	\$7,368
S	\$0	0\$	\$0	\$0	80	80	\$0	\$0	\$0	\$0	\$0	0\$	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$74,145	S	80
0\$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,869	\$0	\$0	\$20,122	\$0	\$710	\$0	93	\$0	\$0	\$0	\$0	S	\$93	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	33	\$0	0\$
\$115	\$0	80	\$0	\$0	\$21,814	80	\$0	\$151,475	\$0	80	\$148,906	\$\$	\$11,367	80	80	0\$	0\$	\$31	0\$	\$815,598	80	\$5,526
80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	80	\$0	\$0	80	0\$	\$0	\$0	\$0	80	\$0	80	. \$0	80	\$0	\$0
\$115	\$0	\$0	\$0	\$0	\$24,930	80	0\$	\$151,475	\$667	80	\$68,416	\$17	\$8,526	80	80	0\$	0\$	\$31	0\$	\$185,363	\$561	\$1,842
0\$	\$0	80	\$0	80	\$9,349	0\$	0\$	\$75,738	80	80	\$40,245	\$2	\$12,788	\$0	\$0	0\$	80	\$31	0\$	\$296,581	\$561	\$16,579
PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
SIM	SIM	SSM	MSS	MSS	STB	STB	STB	TOL	TOL	TOL	SO7	so ₁	SO7	PAC	PAC	PAC	SDC	SDC	SDC	SFC	SFC	SFC
6	6	6	6	6	6	6	6	6	6	6	11	11	11	11	11	11	11	11	11	11	11	11

<u>&</u>	_	FREIGHTER	\$107,605	\$30,744	0\$	\$46,116	\$0	\$15,372	\$15,372	\$15,372	\$0
8		PASSENGER	\$1,559	\$3,118	0\$	0\$	\$0	\$0	\$0	\$1,559	0\$
Š.	~	TANKER	\$29,966	\$53,017	0\$	\$55,323	\$0	\$2,305	\$0	\$13,831	0\$
SEA	4	FREIGHTER	\$413,486	\$454,835	0\$	\$1,323,156	\$0	0\$	\$82,697	\$82,697	0\$
S	SEA	PASSENGER	\$5,067	\$73,475	0\$	\$38,004	\$0	\$15,202	\$7,601	\$2,534	0\$
ြလ	SEA	TANKER	\$1,977	\$3,295	0\$	\$11,864	\$0	\$659	\$0	\$0	S
L「	TAC	FREIGHTER	0\$	\$0	0\$	\$0	\$0	\$0	\$0	80	S
L.	TAC	PASSENGER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	0\$
L	TAC	TANKER	0\$	0\$	0\$	0\$	\$0	\$0	0\$	0\$	0\$
L.	GUA	FREIGHTER	0\$	80	0\$	80	\$0	80	\$0	Q\$	%
ᆫ	GUA	PASSENGER	0\$	0\$	0\$	80	\$0	\$0	0\$	0\$	3
L	GUA	TANKER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	0\$
	HON	FREIGHTER	\$804	\$2,413	0\$	\$10,457	0\$	0\$	0\$	\$1,207	%
	HON	PASSENGER	\$8,441	\$63,307	0\$	\$25,323	\$0	\$8,441	\$4,220	8	0\$
	HON	TANKER	\$111,357	\$131,604	0\$	\$263,208	\$0	\$60,740	\$30,370	\$121,481	0\$
	ANC	FREIGHTER	\$12,245	\$4,082	0\$	\$4,082	\$0	\$0	\$0	æ	S
	ANC	PASSENGER	0\$	0\$	0\$	\$0	80	80	\$30	0\$	S
	ANC	TANKER	0\$	0\$	0\$	\$0	\$0	\$0	\$0	80	0\$
	JUN	FREIGHTER	0\$	0\$	0\$	80	80	\$0	80	0\$	0\$
	JUN	PASSENGER	\$54	\$269	. \$0	\$0	80	\$162	0\$	\$0	0\$
	JUN	TANKER	0\$	\$0	\$0	\$0	80	80	0\$	\$0	0\$
L	VAL	FREIGHTER	0\$	0\$	\$0	\$0	0\$	\$0	0\$	\$0	0\$
L.	VAL	PASSENGER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	\$0	0\$
	70.	Lynnand	,	,							

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Table A.3.9 Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution

			Table A.3.	.3.9 Risk-Based Rankings	Rankings - U.S.	. Flag, MSO, C	Flag, MSO, Casualty Frequency, Pollution	Pollution			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving
-	BOS	FREIGHTER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00
ı	BOS	PASSENGER	0.01	0.04	0.00	0.05	0.00	0.00	0.00	0.00	0.00
-	BOS	TANKER	0.05	0.10	0.00	0.00	0.00	0.00	0.00	00.00	0.00
-	NYC	FREIGHTER	80.72	87.44	0.00	282.51	0.00	33.63	13.45	13.45	00:00
-	NYC	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	NYC	TANKER	12.39	14.87	0.00	37.17	0.00	2.48	1.24	3.72	0.00
-	POM	FREIGHTER	00.0	0.00	0.00	0.00	0.00	0.00	0.00	00:00	0.00
1	POM	PASSENGER	0.00	00:00	0.00	0.00	0.00	0.00	0.00	0.ග	0.00
-	POM	TANKER	00:00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
	PRO	FREIGHTER	00:00	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	PRO	PASSENGER	0.14	0.29	0.00	0.14	0.00	0.00	0.00	0.00	0.00
	PRO	TANKER	00:00	0.00	00:00	0.00	0.00	00:00	0.00	0.00	0.00
2	DAV	FREIGHTER	0.00	00:00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
2	DAV	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	DAV	TANKER	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
2	HUN	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	HUN	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

District MSD Service Crayo Mol. Documental Documental Devices Documental Devices				Table A.3.9		Risk-Based Rankings - U.S.	Flag, MSO, Ca.	Flag, MSO, Casualty Frequency, Pollution	ollution			
MSO Service Cargo/Pol. Steering Documental Documental Documental Documental Fine Holl Fine Holl Library 1 HUN TANKER 0.00		Bin					Level III I	ntervention Strategy	Importance			
HUN TANKER 0.00 <t< th=""><th>District</th><th>MSO</th><th>Service</th><th>Cargo/Poll.</th><th>Steering</th><th>Documents</th><th>Drills</th><th>Auxiliary Sys.</th><th>Power Plant</th><th>Fire Prevention</th><th>Hull</th><th>Lifesaving</th></t<>	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
LOU FREIGHTER 0.00	2	HUN	TANKER	0.00	0.00	0.00	0.00	00:00	00:0	0.00	00.0	00.00
LOU PASSENGER 0.00	2	non	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LOU TANKER 0.00 <t< td=""><td>2</td><td>non</td><td>PASSENGER</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	2	non	PASSENGER	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
MEM FREIGHTER 0.00	2	707	TANKER	0.00	00:00	00.00	0.00	00:00	0.00	0.00	0.00	0.00
MEM PASSENGER 0.00	2	MEM	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00:0
MAS TANKER 0.00 <t< td=""><td>2</td><td>MEM</td><td>PASSENGER</td><td>0.00</td><td>00.0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	2	MEM	PASSENGER	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NAS FREIGHTER 0.00	2	МЕМ	TANKER	00.0	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NAS TANKER 0.00 <t< td=""><td>2</td><td>NAS</td><td>FREIGHTER</td><td>00.0</td><td>00:00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>00:00</td><td>0.00</td></t<>	2	NAS	FREIGHTER	00.0	00:00	0.00	0.00	0.00	0.00	0.00	00:00	0.00
NAS TANKER 0.00 <t< td=""><td>2</td><td>NAS</td><td>PASSENGER</td><td>00.0</td><td>00:00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	2	NAS	PASSENGER	00.0	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAD FREIGHTER 0.00	2	NAS	TANKER	00:00	0.00	00:00	00:00	0.00	0.00	0.00	0.00	0.00
PAD PASSENGER 0.00	2	PAD	FREIGHTER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAD TANKER 0.00 <t< td=""><td>2</td><td>PAD</td><td>PASSENGER</td><td>00:00</td><td>00.00</td><td>0.00</td><td>00.00</td><td>000</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	2	PAD	PASSENGER	00:00	00.00	0.00	00.00	000	0.00	0.00	0.00	0.00
PIT FREIGHTER 0.00	2	PAD	TANKER	0.00	0.00	00.0	00.0	0.00	0.00	0.00	0.00	0.00
PIT PASSENGER 0.00	2	PIT	FREIGHTER	00:00	0.00	00:0	00.00	0.00	0.00	0.00	0.00	0.00
PIT TANKER 0.00 <t< td=""><td>2</td><td>PIT</td><td>PASSENGER</td><td>0.00</td><td>0.00</td><td>00:0</td><td>00:0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	2	PIT	PASSENGER	0.00	0.00	00:0	00:0	0.00	0.00	0.00	0.00	0.00
SLM FREIGHTER 0.00	2	PIT	TANKER	00:0	0.00	00:0	00:00	0.00	00:00	00:00	00:00	0.00
SLM PASSENGER 0.00	2	SLM	FREIGHTER	0.00	0.00	00:00	00:00	0.00	00:00	0.00	0.00	0.00
SLM TANKER 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	2	SLM	PASSENGER	0.00	0.00	00:0	0.00	0.00	0.00	0.00	0.00	0.00
	2	SLM	TANKER	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00

			Table A.3.	<u>م</u>	Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
2	STP	FREIGHTER	00:00	00.0	0.00	00:00	00:0	0.00	00:00	00'0	0.00
2	STP	PASSENGER	00:00	00.0	0.00	0.00	0.00	00:00	00:00	00.00	0.00
2	STP	TANKER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
\$	BAL	FREIGHTER	1.37	2.39	0.00	0.00	0.00	0.34	0.00	0.00	0.00
5	BAL	PASSENGER	00:00	0.00	0.00	0.00	0.00	00:00	0.00	0.00	00'0
5	BAL	TANKER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	HMR	FREIGHTER	197.50	219.44	0.00	351.11	0.00	153.61	65.83	43.89	0.00
\$	HMR	PASSENGER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	HMR	TANKER	14.93	11.61	0.00	9.95	0.00	16.59	1.66	00:00	0.00
5	PHI	FREIGHTER	00:00	0.00	0.00	0.00	0.00	00.00	00.00	0.00	0.00
5	РНІ	PASSENGER	00.00	0.00	0.00	0.00	0.00	0.00	00.00	00.00	0.00
\$	PHI	TANKER	00.0	0.00	0.00	0.00	0.00	00.0	00:00	00.0	0.00
5	WNC	FREIGHTER	0.23	0.38	0.00	0.08	0.00	00.0	00:00	00:00	0.00
\$	WNC	PASSENGER	00.0	0.00	0.00	0.00	0.00	00:0	00.00	00.0	0.00
5	WNC	TANKER	0.00	0.00	0.00	0.00	00:00	0.00	0.00	00:0	0.00
7	CHA	FREIGHTER	00:0	0.00	0.00	0.00	0.00	00:0	0.00	00.00	0.00
7	СНА	PASSENGER	00:00	0.00	0.00	0.00	0.00	00:0	0.00	00:00	0.00
7	СНА	TANKER	00.0	0.00	0.00	0.00	0.00	00:00	00.00	00:0	0.00
7	JAC	FREIGHTER	10.29	22.65	0.00	30.88	0.00	2.06	2.06	4.12	00:00

			Table A.3.9	ii .	Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	'olfution			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving
7	JAC	PASSENGER	1.32	2.63	00:0	1.32	00'0	00:00	0.00	99.0	0.00
7	JAC	TANKER	16.31	16.31	0.00	10.88	0.00	10.88	00.00	00.0	0.00
7	MIA	FREIGHTER	1.38	6.90	0.00	1.38	0.00	2.76	00:0	00:0	0.00
7	MIA	PASSENGER	80.08	0.30	0.00	0.00	0.00	0.00	00.0	00.0	00:00
7	MIA	TANKER	00.00	0.00	0.00	0.00	0.00	00'0	00:0	00.0	0.00
7	SAV	FREIGHTER	00.00	0.00	00.00	0.00	0.00	0.00	00.0	00'0	0.00
7	SAV	PASSENGER	00.0	0.00	0.00	0.00	0.00	00:0	00.0	00.0	0.00
7	SAV	TANKER	0.00	0.00	0.00	0.00	0.00	0.00	00.0	00.00	000
7	SJP	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00:0	00.0	00.00	0000
7	SJP	PASSENGER	0.46	3.24	0.00	0.00	0.00	0.00	0.00	00.00	0.00
7	SJP	TANKER	85.20	17.04	0.00	102.24	0.00	00.0	0.00	0.00	0.00
7	TAM	FREIGHTER	00.0	0.00	0.00	0.00	0.00	00:0	0.00	00.00	0.00
7	TAM	PASSENGER	0.01	0.02	0.00	0.00	0.00	00.0	0.00	0.00	0.00
7	TAM	TANKER	217.73	163.30	0.00	272.16	0.00	27.72	27.22	54.43	0.00
∞	COR	FREIGHTER	00.00	0.00	0.00	0.00	00:00	00.0	00:0	00:00	0.00
∞	COR	PASSENGER	0.00	0.00	0.00	0.00	0.00	00.00	00.0	00:0	0.00
8	COR	TANKER	54.40	136.00	0.00	81.60	00:00	00.00	0.00	54.40	0.00
80	GAL	FREIGHTER	27.93	39.11	0.00	128.50	00:00	16.76	00:0	11.17	0.00
8	GAL	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Table A.3.	م اا	Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
8	GAL	TANKER	1.75	1.75	0.00	0.88	00:00	0.88	00.0	0.88	0.00
8	ноп	FREIGHTER	1230.58	1538.22	0.00	4614.67	0.00	00.0	0.00	0.00	0.00
80	ноп	PASSENGER	00'0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
8	пон	TANKER	42.53	85.07	0.00	42.53	0.00	0.00	0.00	21.27	0.00
80	MOB	FREIGHTER	16.55	23.17	0.00	19.86	0.00	3.31	0.00	6.62	0.00
8	MOB	PASSENGER	00'0	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
8	MOB	TANKER	22.57	60.19	0.00	33.86	0.00	3.76	0.00	0.00	0.00
&	MOR	FREIGHTER	00'0	00:00	0000	0.00	0.00	00:0	0.00	0.00	0.00
∞	MOR	PASSENGER	00:0	0.00	0.00	0.00	0.00	00:0	0.00	0.00	0.00
88	MOR	TANKER	00:0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
8	NEW	FREIGHTER	10.49	22.14	0.00	52.44	0.00	00.0	0.00	1.17	0.00
**	NEW	PASSENGER	00:0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
•	NEW	TANKER	1.40	2.10	0.00	9.60	0.00	00:0	0.00	0.00	0.00
8	PAT	FREIGHTER	3.23	11.32	0.00	11.32	0.00	0.00	4.85	0.00	0.00
*	PAT	PASSENGER	00:0	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00
8	PAT	TANKER	2.97	3.56	00.00	3.56	0.00	00:0	00.0	0.59	0.00
6	BUF	FREIGHTER	32.89	427.63	0.00	131.58	0.00	131.58	00:00	197.37	0.00
6	BUF	PASSENGER	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	000
6	BUF	TANKER	00:0	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00

			Table A.3.9		Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	Pollution			
	Bin					Level III	Level III Intervention Strategy Importance	/ Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	СНІ	FREIGHTER	00.00	00'0	0.00	0.00	00:00	00:0	0.00	00'0	0.00
6	СНІ	PASSENGER	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00
6	СНІ	TANKER	00.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6	CLE	FREIGHTER	59.05	147.62	0.00	103.33	0.00	0.00	29.52	00.0	0.00
6	CLE	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6	CLE	TANKER	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	DET	FREIGHTER	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.13	0.00
6	DET	PASSENGER	00'0	00'0	0.00	0.00	0.00	0.00	0.00	00:0	0.00
6	DET	TANKER	00.0	00:00	0.00	0.00	0.00	0.00	0.00	00:0	0.00
6	DUL	FREIGHTER	0.88	1.13	0.00	0.75	0.00	0.50	0.00	0.50	0.00
6	DUL	PASSENGER	00.0	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	DUL	TANKER	00.0	00'0	0.00	00.00	0.00	0.00	0.00	0.00	0.00
6	MIL	FREIGHTER	00:0	00:0	0.00	00.00	0.00	0.00	0.00	00:0	0.00
6	MIL	PASSENGER	00:00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00
6	MIL	TANKER	00.0	00.0	0.00	0.00	0.00	0.00	0.00	00:00	0.00
6	SIM	FREIGHTER	4.42	4.42	0.00	1.47	0.00	1.47	0.00	00:00	0.00
6	SIM	PASSENGER	00.0	00.0	0.00	00:00	00:0	0.00	0.00	00:0	0.00
6	SIM	TANKER	0.00	0.00	0.00	00:00	0.00	0.00	0.00	00:00	0.00
6	SSM	FREIGHTER	00.0	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00

			Table A.3.9	II	Rankings - U.S.	. Flag, MSO, Ca	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	'ollution			
	Bin					Level III	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
6	SSM	PASSENGER	0.00	0.00	0.00	00'0	0.00	00:0	00.00	00.0	0.00
6	SSM	TANKER	0.00	0.00	0.00	00.0	0.00	00:00	00'0	0.00	0.00
6	STB	FREIGHTER	0.49	1.30	0.00	1.14	0.00	0.00	0.00	0.00	0.00
6	STB	PASSENGER	00:00	0.00	0.00	00.00	0.00	00:00	00.00	0.00	0.00
6	STB	TANKER	0.00	0.00	0.00	00'0	00'0	00.0	00'0	0.00	0.00
6	TOL	FREIGHTER	16.67	33.33	0.00	33.33	0.00	8.33	00:00	0.00	0.00
6	TOL	PASSENGER	0.00	0.00	0.00	00.00	0.00	00.0	00.00	0.00	0.00
6	TOL	TANKER	00.00	0.00	0.00	00.00	0.00	00.0	00.00	0.00	0.00
11	1.08	FREIGHTER	6.83	11.61	0.00	25.26	0.00	3.41	00.0	12.29	0.00
11	1.08	PASSENGER	90:00	0.40	0.00	0.12	0.00	0.00	00.00	0.00	0.00
11	ros	TANKER	46.67	31.12	0.00	41.49	0.00	2.59	2.59	10.37	0.00
11	PAC	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
11	PAC	PASSENGER	00:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	PAC	TANKER	0.00	0.00	0.00	0.00	0.00	00.0	00:00	00.00	0.00
11	SDC	FREIGHTER	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00
11	SDC	PASSENGER	0.11	0.11	0.00	0.11	0.00	0.00	00:00	0.11	0.00
11	SDC	TANKER	0.00	0.00	0.00	0.00	0.00	00.0	00:0	00:0	0.00
11	SFC	FREIGHTER	31.43	19.64	0.00	86.43	0.00	00:00	7.86	11.79	0.00
=	SFC	PASSENGER	1.20	1.20	0.00	0.00	0.00	0.20	0.00	0.80	0.00

			Table A.3.9	11	Risk-Based Rankings - U.S.	Flag, MSO, Ca	Flag, MSO, Casualty Frequency, Pollution	ollution			
	Bin					Level III 1	Level III Intervention Strategy Importance	' Importance			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving
11	SFC	TANKER	465.18	51.69	0.00	155.06	00.00	00:0	00:00	206.75	00:0
13	POR	FREIGHTER	7.49	2.14	0.00	3.21	0.00	1.07	1.07	1.07	0.00
13	POR	PASSENGER	0.29	0.59	0.00	0.00	0.00	00:00	0.00	0.29	0.00
13	POR	TANKER	7.52	13.30	0.00	13.88	0.00	0.58	0.00	3.47	0.00
13	SEA	FREIGHTER	19.82	21.80	0.00	63.42	0.00	0.00	3.96	3.96	0.00
13	SEA	PASSENGER	0.05	0.22	0.00	0.11	0.00	0.05	0.02	0.01	0.00
13	SEA	TANKER	5.00	8.33	0.00	30.00	0.00	1.67	0.00	0.00	0.00
13	TAC	FREIGHTER	0.00	0.00	00'0	0.00	0.00	00:00	0.00	00.0	0.00
13	TAC	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	TAC	TANKER	00:00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00
14	GUA	FREIGHTER	00:00	0.00	0.00	0.00	0.00	00:00	0.00	00.0	0.00
14	GUA	PASSENGER	00:00	0.00	0.00	0.00	0.00	00.00	0.00	00.0	0.00
14	GUA	TANKER	0.00	00.00	0.00	0.00	0.00	00:00	0.00	0.00	0.00
14	HON	FREIGHTER	374.32	1122.97	0.00	4866.21	0.00	00:00	0.00	561.49	0.00
14	HON	PASSENGER	8.24	61.84	0.00	24.73	0.00	8.24	4.12	00.0	0.00
14	HON	TANKER	182.39	215.55	0.00	431.10	0.00	99.48	49.74	198.97	0.00
11	ANC	FREIGHTER	0.31	01.0	0.00	01.0	0.00	0.00	00:0	00.00	0.00
17	ANC	PASSENGER	0.00	0.00	0.00	0.00	0.00	0.00	00:0	0.00	0.00
17	ANC	TANKER	00.00	00.0	0.00	0.00	0.00	0.00	00:00	00:0	0.00

			Table A.3.9	_	Rankings - U.S	. Flag, MSO, C	Risk-Based Rankings - U.S. Flag, MSO, Casualty Frequency, Pollution	ollution			
	Bin					Level III	Level III Intervention Strategy Importance	Importance			
District	OSW	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving
17	NOV	FREIGHTER	00:0	00'0	00.0	00.0	00'0	00'0	00:00	00:00	0.00
11	NOC	PASSENGER	0.32	1.60	00'0	00.00	0.00	96:0	00:00	00:00	0.00
17	NOL	TANKER	0.00	00.0	00:00	00.0	0.00	00.00	00:00	00.00	0.00
11	VAL	FREIGHTER	0.00	00.00	00.00	00.00	0.00	00.00	00.00	0.00	0.00
. 17	VAL	PASSENGER	0.00	00.00	00:00	00.0	00.00	00:0	0.00	00:00	0.00
11	VAL	TANKER	0.00	00.00	0.00	00.0	0.00	00.0	0.00	0.00	0.00

A.4 Foreign Flag Marine Safety Office Level Risk-Based Ranking Results

Bin data used in the risk-based ranking for district level data aggregation are shown in Table A.4.1. The risk-based ranking results are shown in Tables A.4.2 through A.4.9 as follows:

Table A.4.2 - Foreign Flag, MSO, Relative Frequency, Deaths, Table A.4.3 - Foreign Flag, MSO, Relative Frequency, Injuries, Table A.4.4 - Foreign Flag, MSO, Relative Frequency, Property Loss, Table A.4.5 - Foreign Flag, MSO, Relative Frequency, Pollution, Table A.4.6 - Foreign Flag, MSO, Casualty Frequency, Deaths, Table A.4.7 - Foreign Flag, MSO, Casualty Frequency, Injuries, Table A.4.8 - Foreign Flag, MSO, Casualty Frequency, Property Loss, Table A.4.9 - Foreign Flag, MSO, Casualty Frequency, Pollution.

Table A.4.1 Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag

		Tat	Table A.4.1 Risk-	-Based Rankir	ig Bin Data St	ımmary - Mar	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ices, Foreign	Flag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
1	BOS	FREIGHTER	125	15	0.0116	0.12000	0.0291	0	0	\$951,000	0
1	BOS	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
1	BOS	TANKER	69	12	0.0093	0.17391	0.0456	-	0	\$3,500	331
1	LIS	FREIGHTER	160	∞	0.0062	0.05000	0.0172	0	1	\$100	••
	TIS	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
1	LIS	TANKER	34	9	0.0046	0.17647	0.0654	0	0	\$60,000	63
1	NYC	FREIGHTER	751	53	0.0409	0.07057	0.0093	0	2	\$620,730	736
1	NYC	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
1	NYC	TANKER	272	44	0.0340	0.16176	0.0223	0	***	\$100,000	1117
1	POM	FREIGHTER	85	5	0.0039	0.05882	0.0255	0	0	\$170,000	0
1	POM	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	80	0
	POM	TANKER	53	7	0.0054	0.13208	0.0465	0	0	\$68,000	99047
1	PRO	FREIGHTER	128	12	0.0093	0.09375	0.0258	0	1	\$30,500	83

	Tal	Table A.4.1 Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	-Based Rankin	g Bin Data Su	ımmary - Mar	ine Safety Offi	ices, Foreign	Flag		
Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	nences	
MSO	Service	1		Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
Ь	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	០\$	0
	TANKER	46	5	0.0039	0.10870	0.0459	0	0	o\$	284
ALL MSOs	FREIGHTER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
ALL MSOs	PASSENGER	0	0	00000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	o \$	0
ALL MSOs	TANKER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
	FREIGHTER	527	28	0.0216	0.05313	0.0098	0	2	\$590,954	5041
	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	80	0
	TANKER	48	12	0.0093	0.25000	0.0625	0	0	\$25	722
HMR	FREIGHTER	751	32	0.0247	0.04261	0.0074	1	1	\$40,100	929
HMR	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$ 0	0
HMR	TANKER	134	17	0.0131	0.12687	0.0288	0	0	0\$	14005
	FREIGHTER	1127	37	0.0286	0.03283	0.0053	•	0	\$1,542,50 0	912
1										

Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ty	rd Deaths injuries property pollution	PE 0 0 \$0 0 S	76 0 2 \$115,085 713	76 0 1 \$60,000 553	0 0\$ 0 0 00	80 1 0 \$150,001 6	54 0 0 \$0 1594	0 0 0 0 00	0 0\$ 0 0 00	16 0 0 \$202,025 168	0 0\$ 0 0 00	88 0 1 \$0 689	10 2 0 \$1,071,50 150650 0	00 0 4 \$10,000 290	25 0 0 \$0 11	1
Marine Safety	Casualty ty Freq.	S D	PE NOINSPE S CTIONS	94 0.0276	0.0176	000000	43 0.1080	48 0.0154	00 0.0000	00 0.0000	30 0.0116	00 0.0000	67 0.1288	0.0110	00 0.0000	33 0.1925	
a Summary -	e Casualty		NOINSPE CTIONS	0.15294	0.06316	0.00000	0.57143	6 0.06148	0.00000	0.00000	0.04430	0.00000	14 0.46667	96/60.0	00000 1	5 0.33333	
king Bin Data	Relative		0.0000	0.0201	0.0093	0.0000	0.0093	0.0116	0.0000	0.0000	0.0108	0.0000	0.0054	0.0556	0:0116	0.0015	
k-Based Ranl	casualties		0	26	12	0	12	15	0	0	14	0	7	72	15	2	
Table A.4.1 Ris	inspections	•	0	170	190	2	21	244	1	. 3	316	1	15	735	15	9	
Ta	_	Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	
	Bin	MSO	РНІ	PHI	WNC	WNC	WNC	СНА	СНА	СНА	JAC	JAC	JAC	MIA	MIA	MIA	
		District	S	5	5	5	5	7	7	7	7	7	7	7	7	7	

		pollution	0	0	1147	0	100	181	5	3011	3	0	0	0	0
	nences	property	\$0	0\$	\$21,600	\$0	\$50,000	\$3,330,10 0	\$10,000	\$10,000	80	\$0	80	\$0	0\$
Flag	Consequences	injuries	0	0	0	0	0	0	0	0	0	0	0	0	0
ices, Foreign		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	Casualty Freq.	Standard Deviation	NOINSPE CTIONS	NOINSPE CTIONS	0.0111	0.0000	0.1169	0.0075	0.0741	0.0272	0.0441	NOINSPE CTIONS	0.0000	0.0000	0.0000
ımmary - Mari	Casualty	Freq.	NOINSPE CTIONS	NOINSPE CTIONS	0.07021	0.00000	0.23077	0.03577	0.32500	0.16304	0.10417	NOINSPE CTIONS	0.00000	0.00000	1.00000
g Bin Data Su	Relative	Freq.	0.0000	0.0000	0.0286	0.0000	0.0023	0.0170	0.0100	0.0232	0.0039	0.0000	0.0000	0.0000	0.0008
Based Rankin	casualties		0	0	37	0	3	22	13	30	5	0	0	0	1
Table A.4.1 Risk-	inspections	4	0	0	527	1	13	615	40	184	48	0	1	1	
Tab		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	PTC	PTC	SAV	AVS	VAS	dſS	SJP	dſS	STC	STC	STC	LLS	STT
		District	7	7	7	7	7	7	7	7	7	<i>L</i>	7	7	7

		pollution	0	594	0	243	2117	0	0	1	0	0	1273	0	21502
	ences	property	0\$	\$27,000	S	\$300	\$35,000	S	0\$	S	%	0\$	\$515,000	S.	\$207,500
Flag	Consequences	injuries	0	1	0	0	1	0	0	0	0	0	1	0	0
ces, Foreign l		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	Casualty Freq.	Standard Deviation	NOINSPE CTIONS	0.0096	NOINSPE CTIONS	0.1501	0.0187	NOINSPE CTIONS	0.0000	0.0487	NOINSPE CTIONS	NOINSPE CTIONS	0.0139	NOINSPE CTIONS	0.0266
mmary - Mari	Casualty	Freq.	NOINSPE CTIONS	0.04279	NOINSPE CTIONS	0.45455	0.09205	NOINSPE CTIONS	0.0000	0.07143	NOINSPE CTIONS	NOINSPE CTIONS	0.08205	NOINSPE CTIONS	0.15301
g Bin Data Su	Relative	Freq.	0.0000	0.0147	0.0000	0.0039	0.0170	0.0000	0.0000	0.0015	0.0000	0.0000	. 0.0247	00000	0.0216
Based Rankin	casualties		0	19	0	5	22	0	0	2	0	0	32	0	28
Table A.4.1 Risk-	inspections	4	0	444	0	11	239	0	9	28	0	0	390	0	183
Tabi		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	STT	TAM	TAM	TAM	BAT	BAT	BAT	BRN	BRN	BRN	COR	COR	COR
		District	7	7	7	7	∞	œ	∞	∞	∞	∞	80	∞	∞

		Tal	Table A.4.1 Risk	Risk-Based Rankin	ig Bin Data St	Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ine Safety Off	ices, Foreign	Flag		
	Bin		inspections	casualties	Relative	Casualty	Casualty Freq.		Conseq	Consequences	
District	MSO	Service	•		Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
8	GAL	FREIGHTER	331	11	0.0085	0.03323	0.0099	0	0	\$268,348	089
∞	GAL	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	S	0
∞	GAL	TANKER	127	28	0.0216	0.22047	0.0368	0	1	\$85,425	3967
œ	ноп	FREIGHTER	1068	67	0.0517	0.06273	0.0074	0	2	\$1,770,75	252971
œ	ноп	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	S,	0
&	НОП	TANKER	8	2	0.0015	0.25000	0.1531	0	0	0\$	5
8	LKC	FREIGHTER	84	7	0.0054	0.08333	0.0302	0	0	\$143,500	91
∞	ГКС	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
8	LKC	TANKER	2	0	0.0000	0.00000	0.000	0	0	0\$	0
8	МОВ	FREIGHTER	516	37	0.0286	0.07171	0.0114	1	1	\$10,765	1111
∞	МОВ	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
&	МОВ	TANKER	35	6	0.0069	0.25714	0.0739	0	0	\$230,000	2103
∞	MOR	FREIGHTER	4	0	0.0000	0.0000	0.0000	0	0	0\$	0

		Tal	Table A.4.1 Risk	-Based Rankir	ng Bin Data S	ummary - Man	Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ices, Foreign	Flag		
	Bin	-	inspections	casualties	Relative	Casualty	Casualty			Consequences	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
∞	MOR	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
∞	MOR	TANKER	229	11	0.0085	0.04803	0.0141	0	0	\$11,000	10
∞	NEW	FREIGHTER	2412	51	0.0394	0.02114	0.0029	1	2	\$2,780,62 5	589
∞	NEW	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
8	NEW	TANKER	215	33	0.0255	0.15349	0.0246	1	0	\$530,520	1594
∞	PAT	FREIGHTER	256	14	0.0108	0.05469	0.0142	0	0	\$55,100	904
∞	PAT	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
80	PAT	TANKER	148	23	0.0178	0.15541	0.0298	0	80	\$260,489	12036
80	РСБ	FREIGHTER	80	0	0.0000	0.00000	0.0000	0	0	S.	0
œ	PCD	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
∞	PCD	TANKER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$0	0
8	PLA	FREIGHTER	41	0	0.0000	0.0000	0.0000	0	0	\$0	0

		g	0	0	0	0	٥	0	0	0	٥	0	0	0	0
		pollution													
	nences	property	0\$	9	\$20,000	0\$	%	\$25,000	\$0	\$0	0\$	0\$	\$250,000	0\$	0\$
Jag	Consequences	injuries	0	0	0	0	0	0	0	0	-	0	0	0	0
ces, Foreign		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	Casualty Freq.	Standard Deviation	NOINSPE CTIONS	NOINSPE CTIONS	0.0487	NOINSPE CTIONS	0.0000	0.0247	NOINSPE CTIONS	0.0000	0.0333	NOINSPE CTIONS	0.2191	0.0286	NOINSPE CTIONS
mmary - Mari	Casualty	Freq.	NOINSPE CTIONS	NOINSPE CTIONS	0.05000	NOINSPE CTIONS	0.00000	0.02500	NOINSPE CTIONS	0.00000	0.06897	NOINSPE CTIONS	0.60000	0.05085	NOINSPE CTIONS
g Bin Data Su	Relative	Freq.	0.000	0.0000	0.0008	0.0000	0.0000	0.0008	0.0000	0.0000	0.0031	0.0000	0.0023	0.0023	0.000
	casualties		0	0	1	0	0	1	0	0	4	0	3	3	0
Table A.4.1 Risk-Based	inspections	anomadem .	0	0	20	0	11	40	0	4	58	0	5	59	0
Tabl		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	PLA	PLA	BUF	BUF	BUF	СНІ	СНІ	CHI	CLE	CLE	CLE	DET	DET
		District	∞	∞	6	6	6	6	6	6	6	6	6	6	6

		Tat	Table A.4.1 Risk	Risk-Based Rankin	g Bin Data Su	ımmary - Mari	Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ces, Foreign	Flag		
	Bin	_	inspections	casualties	Relative	Casualty	Casualty Freq.		Consequences	uences	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
6	DET	TANKER	4	0	0.0000	0.00000	0.000	0	0	0\$	0
6	DUL	FREIGHTER	129	23	0.0178	0.17829	0.0337	1	0	\$554,100	122
6	DOL	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
6	DUL	TANKER	1	0	0.0000	0.00000	0.000	0	0	0\$	0
6	MAS	FREIGHTER	77	9	0.0046	0.07792	0.0305	0	0	0\$	2
6	MAS	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
6	MAS	TANKER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
9	MIL	FREIGHTER	28	1	0.0008	0.03571	0.0351	0	0	\$150,175	0
9	MIL	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	8	0
6	MIL	TANKER	3	0	0.0000	0.00000	0.0000	0	0	0\$	0
9	SIM	FREIGHTER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	\$	0
6	SIM	PASSENGER	0	0	0.000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	S	0

			T	2	T	·	T		٦.		_	-	T	-	T	_	7		_	_		-	_	_
				pollution							0		°		٩		٩	•	8	3	0		0	6551
		Consequences		property	S	•	8		8		8		8		8		я	-	\$901.150		3	†	S.	S
	Flag	Consec		mjuries	0		0		0		0		0		0		0		0	c	>		Э	-
	fices, Foreign		4		0		0		0		0		0		0		0		0	0		6	+	0
	And Annual Sun Data Summary - Marine Safety Offices, Foreign Flag	Casualty Fred.	Standard	Deviation	NOINSPE	CITONS	NOINSPE	CITONS	NOINSPE	2000	NOINSPE		NOINSPE		NOINSPE	CITONS	NOINSPE	CITONS	0.0307	NOINSPE	CTIONS	0.0000		0.0297
	ummary - Ma	Casualty	Freq.		NOINSPE	CHICINS	NOINSPE	CNOTO	NOINSPE	MOINTON	CTIONS		NOINSPE		NOINSPE	210112	NOINSPE	SIDING	0.12281	ш	CTIONS	0.00000		0.08/91
	ng bin Data S	Relative	Fig.		0.0000		0.0000	1000	0.000	0	3	1	0.000		0.0000		0.0000		0.0108	0.0000		0.0000	6,000	2000
-Racad Dont:	Dasce Ivalia	casualties			0		5		>	0		c	>	·	Э			:	2	0		0	œ	
Table A.4.1 Rish		inspections			0	•	>	C	,	0		•	,	•	>	•	>	=		0		3	16	
Ē			Service	TANKED		FREIGHTER		PASSENGER		TANKER		FREIGHTER		PASSENGER		TANKER		FREIGHTER	DA CETTAIN	FASSENGER	ANIETE	IVINER	FREIGHTER	
	Bin	Ago	Ocia	SIM		SSM		SSM		SSM		STB		STB		STB		TOL	15T		ا اچ	†	CON	
		District		6		6		6		0	╁	<u> </u>		0,		0,		6	6		0	+	=	

		pollution	0	0	1011	0	211	0	0	0	0	2	0	1136	0
	ences	property	0\$	0\$	\$7,177,67 3	0\$	\$50,000	0\$	Ç,	&	0\$	8	0\$	\$292,296	8
Flag	Consequences	injuries	0	0	3	0	0	0	0	0	0	0	0	0	0
ices, Foreign		Deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	Casualty Fred.	Standard Deviation	NOINSPE CTIONS	0.0000	0.0042	0.3536	0.0223	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0.0230	0.1450	0.0000	0.0101	NOINSPE CTIONS
mmary - Mari	Casualty	Freq.	NOINSPE CTIONS	0.00000	0.02898	0.50000	0.07692	0.00000	NOINSPE CTIONS	NOINSPE CTIONS	0.02326	0.36364	0.00000	0.05422	NOINSPE CTIONS
g Bin Data Su	Relative	Freq.	0.0000	0.0000	0.0363	0.0008	0.0085	0.0000	0.0000	00000	0.0008	0.0031	0.0000	0.0208	0.0000
Based Rankin	casualties		0	0	47	1	11	0	0	0	1	4	0	12	0
Table A.4.1 Risk-	inspections		0	1	1622	2	143	61	0	0	43	11	1	498	0
Tabi		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREICHTER	PASSENGER
	Bin	MSO	CON	CON	ros	ros	ros	SBC	SBC	SBC	SDC	SDC	SDC	SFC	SFC
		District	11	=	11	=	11	11	11	11	11	11	11	11	11

		pollution	128	0	0	0	6624	0	42	1292	0	15	0	0	0	175
	ences	property	\$250,000	0\$	0\$	0\$	\$273,550	0\$	0\$	\$81,050	0\$	\$10,100	0\$	0\$	0\$	8
Flag	Consequences	injuries	0	0	0	0	1	0	1	1	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag		Deaths	0	0	0	0	2	0	0	0	0	0	0	0	0	0
ne Safety Offi	Casualty Freq.	Standard Deviation	0.0460	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0.0053	0.0000	0.0407	0.0062	NOINSPE CTIONS	0.1097	0.0000	NOINSPE CTIONS	0.0000	0.0141
mmary - Mari	Casualty	Freq.	0.12000	0.00000	NOINSPE CTIONS	NOINSPE CTIONS	0.04061	0.00000	0.08511	0.03202	NOINSPE CTIONS	0.21429	0.00000	NOINSPE CTIONS	0.00000	0.02020
g Bin Data Su	Relative	Freq.	0.0046	0.0000	0.0000	0.0000	0.0432	0.0000	0.0031	0.0201	0.0000	0.0023	0.0000	0.0000	0.0000	0.0015
Based Rankin	casualties		9	0	0	0	99	0	4	26	0	3	0	0	0	2
Table A.4.1 Risk-	inspections		50	1	0	0	1379	1	47	812	0	14	11	0	1	66
Tab		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	SFC	GRA	GRA	GRA	POR	POR	POR	SEA	SEA	SEA	ASO	ASO	ASO	GUA
		District	11	13	13	13	13	13	13	13	13	13	14	14	14	14

		Tal	Table A.4.1 Risk-Bas	-Based Rankir	ig Bin Data S	ummary - Mai	ed Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	ices, Foreign	Flag		
	Bin		inspections	casualties	Relative	Casualty	Casualty		Consequences	neaces	
District	MSO	Service			Freq.	Freq.	Standard Deviation	Deaths	injuries	property	pollution
14	GUA	PASSENGER	3	0	0.0000	0.00000	0.0000	0	0	0 \$	0
14	GUA	TANKER	<i>L</i> 9	1	0.0008	0.01493	0.0148	0	0	\$30,000	0
14	HON	FREIGHTER	367	6	0.0069	0.02452	0.0081	0	0	S.	292
Bad Data 14	HON	PASSENGER	19	28	0.0216	Bad Data	Bad Data		24	\$13,000,0	m
14	HON	TANKER	144	12	0.0093	0.08333	0.0230	0	0	\$208,000	11
17	ANC	FREIGHTER	36	3	0.0023	0.08333	0.0461	0	0	\$150,000	0
17	ANC	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	O\$	0
17	ANC	TANKER	21	0	0.0000	0.00000	0.0000	0	0	\$0	0
17	DHA	FREIGHTER	89	1	0.0008	0.01695	0.0168	0	0	\$0	11
17	DHA	PASSENGER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	O\$	0
17	DHA	TANKER	0	0	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0	0	0\$	0
17	JUN	FREIGHTER	110	5	0.0039	0.04545	0.0199	0	0	\$7,700	50
17	JUN	PASSENGER	2	0	0.000	0.0000	0.0000	0	0	0\$	0

		pollution	0	0	0	0	50	0	0	0	0	0	0	0
	ences	property	Ş	0\$	\$	8	\$0	S.	0\$	0\$	&	S,	O\$	0%
'lag	Consequences	injuries	-	0	0	0	0	0	0	0	0	0	0	0
ces, Foreign F		Deaths	0	0	0	0	0	0	0	0	0	0	0	0
Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag	Casualty Freq.	Standard Deviation	0.2722	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0.0362	NOINSPE CTIONS	0.0000	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	0.0000	NOINSPE CTIONS
mmary - Mari	Casualty	Freq.	0.33333	0.00000	NOINSPE CTIONS	NOINSPE CTIONS	0.05263	NOINSPE CTIONS	0.00000	0.00000	NOINSPE CTIONS	NOINSPE CTIONS	0.00000	NOINSPE CTIONS
g Bin Data Sur	Relative	Freq.	0.0008	0.0000	0.000	0.000	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
Based Ranking	cacnalties		1	0	0	0	2	0	0	0	0	0	0	0
Table A.4.1 Risk-	inspections	gronadem	3	29	0	0	38	0	1	3	0	0	3	0
Tabl		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	NDI	KEN	KEN	KEN	KET	KET	KET	КОБ	КОД	КОД	SIT	SIT
		District	17	17	17	17	17	17	17	17	17	17	17	17

		tion	0	0	0	0	601979
		pollution					109
	Consequences	property	O \$	S	S	0\$	\$39,659,8 37
Flag	Consed	injuries	0	0	0	0	99
ices, Foreign		Deaths	0	0	0	0	13
ine Safety Offi	Casualty Fred.	Standard Deviation	NOINSPE CTIONS	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	
ımmary - Mari	Casualiv	Freq.	NOINSPE CTIONS	0.0000	NOINSPE CTIONS	NOINSPE CTIONS	
g Bin Data Su	Relative	Freq.	0.0000	0.0000	0.0000	0.0000	1.0000
sk-Based Rankin	seitleuss		0	0	0	0	1295
Table A.4.1 Risk-Based Ranking Bin Data Summary - Marine Safety Offices, Foreign Flag		snoncodem	0	3	0	0	20212
Tab		Service	TANKER	FREIGHTER	PASSENGER	TANKER	
	Bin	MSO	SIT	VAL	VAL	VAL	
		District	17	17	. 17	17	

Table A.4.2 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths

			1	Table A.4.2 Risk-Be		s - Foreign Flag.	sed Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	quency, Deaths				
	Bin					L	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifosaving	Other
1	BOS	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
1	BOS	PASSENGER	0.0000	0.0000	0.000	00000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
. 1	BOS	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
1	LIS	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
1	LIS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
1	LIS	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	NYC	FREIGHTER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	NYC	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
1	NYC	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	POM	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
	POM	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
1	POM	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	PRO	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	. 0.0000	0.0000	0.0000
1	PRO	PASSENGER	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
-	PRO	TANKER	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
2	ALL MSO.	FREIGHTER	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000
2	ALL MSO	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000

				Table A.4.2 Risk-I	-Based Ranking	s - Foreign Flag,	Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	quency, Deaths				
	Bin					7	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
2	ALL MSO	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
\$	BAL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
5	BAL	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
\$	BAL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
8	HMR	FREIGHTER	0.0093	0.0093	0.0000	0.0015	0.0000	0.0008	0.000	0.0008	0.0000	0.000
~	HMR	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
\$	HMR	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
3	PHI	FREIGHTER	0.0124	0.0100	0.0000	0.0008	0.0000	0.0000	0.000	0.0008	0.000	0.000
~	꿆	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
\$	PHI	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000
~	WNC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
\$	WNC	PASSENGER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.000	0.000
\$	WNC	TANKER	0.0023	0.0062	0.0000	0.0008	0.0000	0.0000	0.000	0.000	0.0000	0.000
7	CHA	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
7	СНА	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000
7	СНА	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
7	JAC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
7	JAC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000
7	JAC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

				Table A.4.2 Risk-Bar	k-Based Ranking	ts - Foreign Flag	sed Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	equency, Deaths				
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poil.	Steering	Documents	Drills	Auxiliery Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
7	MIA	FREIGHTER	0.0633	0.0247	0.000	0.0015	0.0000	0.0000	0.0000	0.0077	0.0000	0.0015
7	MIA	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	MIA	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	PTC	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
7	PTC	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
7	PTC	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
7	SAV	FREIGHTER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
7	SAV	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	SAV	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
7	SJP	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
7	SJP	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	SJP	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
7	sтс	FREIGHTER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	00000	0.0000
7	STC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000
7	src	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
7	str	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	STT	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	STT	TANKER	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	TAM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000

		Other	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.0000
		Lifeaving	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Huli	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
	Ince	Fire Prevention	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
equency, Deaths	Strategy Import	Power Plant	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	00000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
s - Foreign Flag,	L	Drills	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
k-Based Ranking		Documents	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000
Table A.4.2 Risk-		Steering	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER															
	Bin	MSO	TAM	TAM	BAT	ВАТ	BAT	BRN	BRN	BRN	COR	COR	COR	GAL	GAL	GAL	НОП	НОП	ноп	LKC	LKC
		District	7	7	80	•••	•	∞	∞	∞	∞	*	•	œ	•	*	••	∞	∞	∞	80

			T	Table A.4.2 Risk-Ba	c-Based Rankings	1 - Foreign Flag,	sed Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	quency, Deaths				
	Bin					נ	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifosaving	Other
••	LKC	TANKER	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
60	MOB	FREIGHTER	0.0100	0.0077	0.0000	0.0023	0.0000	0.0008	0.0000	0.0015	0.000	0.0008
•	MOB	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
80	MOB	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000
80	MOR	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
•••	MOR	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
600	MOR	TANKER	0.0000	0.000	0.000	0.0000	00000	0.0000	0.000	0.000	0.0000	0.000
•	NEW	FREIGHTER	0.0085	0.0147	0.000	0.0039	0.0000	0.0046	0.0000	0.000	0.0000	0.0023
•	NEW	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
•	NEW	TANKER	0.0069	0.0069	0.000	0.0015	0.0000	0.0000	0.0023	0.0008	0.0000	0.0015
•	PAT	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
•	PAT	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000
•	PAT	TANKER	0.3000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
•	2	FREIGHTER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.000
•	22	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
•	χ Ω2	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000
•	PLA	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
•••	PLA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
••	PLA	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.000

				Table A.4.2 Risl	c-Based Ranking	1 - Foreign Flag	Table A.4.2 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	equency. Deaths				
	Bin					1	Level III Intervention Strategy Importance	Strategy Import	unce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	BUF	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
6	BUF	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.000	0.0000
6	BUF	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	СНІ	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
6	СНІ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
6	СНІ	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
6	CLE	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
6	CLE	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000	0.0000	0.0000
6	CLE	TANKER	0.000	0.000	0.000	0.0000	0.0000	00000	00000	0.0000	0.0000	0.0000
6	DET	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DET	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DUL	FREIGHTER	0.0039	0.0054	0.0000	0.0023	0.000	0.000	8000'0	0.0008	0.0000	0.0000
6	DUL	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	DUL	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
6	MAS	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MAS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000
6	MAS	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	МП	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000

Fire Hull Lifesaving C 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.				1	Table A.4.2 Rist	k-Based Ranking	s - Foreign Flag	Table A.4.2 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	quency, Deaths				
MICO Service CrayoPool. Service Cuscon Cus		Bin					L	evel III Intervention	Strategy Importa	ince			
MIL PASSENGER 0.0000<	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
SIM TANKER 0.0000 <td>6</td> <td>MIL</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>00000</td>	6	MIL	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	00000
SIM PREIGHTER 0.0000<	6	MIL	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
SIM PASSENGER 0.0000<	6	SIM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
SSM FANKER 0.0000 <td>6</td> <td>SIM</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>00000</td>	6	SIM	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
SSM FREIGHTER 0.0000<	6	SIM	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
SSM PASSENGER 0.0000<	6	SSM	FREIGHTER	0.0000	0.000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	00000
STR TANKER 0.0000 <td>٥</td> <td>SSM</td> <td>PASSENGER</td> <td>0.0000</td>	٥	SSM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STB FREIGHTER 0.0000<	6	SSM	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
STB PASSENGER 0.0000<	6	STB	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
STB TANKER 0.0000 <td>6</td> <td>STB</td> <td>PASSENGER</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td>	6	STB	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
TOL FREIGHTER 0.0000<	6	STB	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.0000
TOL PASSENGER 0.0000<	6	TOL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
TOL TANKER 0.0000 <td>6</td> <td>TOL</td> <td>PASSENGER</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	6	TOL	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
CON FREIGHTER 0.0000<	6	TOL	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
CON PASSENGER 0.0000<	11	CON	FREIGHTER	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
CON TANKER 0.0000 <td>=</td> <td>CON</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	=	CON	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
LOS FREIGHTER 0.0000<	=	CON	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LOS PASSENGER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	=	108	FREIGHTER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	=	207	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

				able A.4.2 Risk	-Based Ranking	s - Foreign Flag	Table A.4.2 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	equency, Deaths				
	Bin					J	Level III Intervention Strategy Importance	Strategy Importa	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliery Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
=	SOI	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
11	SBC	FREIGHTER	0.0000	00000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000
=	SBC	PASSENGER	0.0000	00000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.000
11	SBC	TANKER	0.000	00000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000
11	SDC	FREIGHTER	0.0000	00000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
11	SDC	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000
11	SDC	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
==	SFC	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
==	SFC	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
11	SFC	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	GRA	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
13	GRA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
13	GRA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
13	POR	FREIGHTER	0.0247	0.0185	00000	0.0062	0.0000	0.0046	0.0015	0.0015	0.0000	0.0062
13	POR	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
13	POR	TANKER	0.0000	0.000	00000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
13	SEA	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
13	SEA	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
13	SEA	TANKER	0.0000	0.000	00000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

				Table A.4.2 Risk-B	k-Based Ranking	s - Foreign Flag,	seed Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	quency, Deaths				
	Bin					מ	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
14	OSY	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
14	OSY	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
41	ASO	TANKER	00000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
14	AUA	FREIGHTER	0.0000	00000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000
14	QUA	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
14	BUA	TANKER	0.0000	0.000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
14	HON	FREIGHTER	0.0000	00000	00000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
Bad Data 14	HON	PASSENGER	0.0031	0.0023	00000	0.0162	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	HON	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	ANC	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
17	ANC	PASSENGER	0.0000	00000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
17	ANC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
17	DHA	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
11	DHA	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	DHA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	JUN	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	JUN	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	JUN	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-												

				Table A.4.2 Risk-Ba	k-Based Ranking	s - Foreign Flag	sed Rankings - Foreign Flag, MSO, Relative Frequency, Deaths	equency, Deaths				
	Bin					7	Level III Intervention Strategy Importance	Strategy Import	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving	Other
17	KEN	FREIGHTER	0.0000	0.0000	0.000	0.000	00000	0.0000	0.0000	0.0000	0.0000	0.0000
17	KEN	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	00000	0.000	00000	0.000
17	KEN	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	00000	0.0000	0.0000
11	KET	FREIGHTER	0.0000	0.000	0.000	0.0000	00000	0.0000	0.000	0.000	0:0000	0.0000
11	KET	PASSENGER	0.0000	0.000	0.000	0.0000	00000	0.0000	0.000	0.000	0.0000	0.0000
11	KET	TANKER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
17	KOD	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
11	KOD	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
11	KOD	TANKER	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
11	SIT	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.000	0.0000
17	SП	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
17	SIT	TANKER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
11	VAL	FREIGHTER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
17	VAL	PASSENGER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	VÀĽ	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A.4.3 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries

			1	able A.4.3 Risk	-Based Ranking	s - Foreign Flag,	Table A.4.3 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					ר	Level III Intervention Strategy Importance	Strategy Imports	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifesaving	Other
1	BOS	FREIGHTER	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	00000	0.0000
1	BOS	PASSENGER	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.000	00000	0.0000
-	BOS	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000
-	LIS	FREIGHTER	0.0023	0.0031	0.0000	0.0008	0.0000	0.0000	0.0000	0.000	00000	0.0000
1	TIS	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1	LIS	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-	NYC	FREIGHTER	0.0324	0.0247	0.000	0.0031	0.0000	0.0031	0.0046	0.0015	00000	0.0015
-	NYC	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
-	NYC	TANKER	0.0154	0.0069	0.0000	0.0008	0.0000	0.0023	0.0000	0.000	0.0000	0.0000
-	POM	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
_	POM	PASSENGER	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
-	POM	TANKER	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
-	PRO	FREIGHTER	0.0031	0.0046	0.0000	0.0008	0.0000	0.000	0.0000	0.0008	0.0000	0.0000
-	PRO	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
-	PRO	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
2	ALL MSO	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	ALL MSO	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
2	ALL MSO	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			1	Table A.4.3 Risk-Bu		- Foreign Flag,	sed Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hoff	Lifesaving	Other
8	BAL	FREIGHTER	0.0124	0.0185	0.000	0.0031	0.0000	0.0015	00000	0.0015	0.0000	0.0000
\$	BAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
5	BAL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000
\$	НМК	FREIGHTER	0.0093	0.0093	0.0000	0.0015	0.0000	0.0008	0.0000	0.0008	0.0000	0.0008
\$	HMR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
\$	HMR	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
5	PHI	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
\$	PHI	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000
\$	PHI	TANKER	0.0170	0.0046	0.0000	0.0031	0.0000	0.000	0.0000	0.000	0.0000	0.0031
5	WNC	FREIGHTER	0.0031	0.0023	0.0000	0.0008	0.000.0	8000.0	0.0000	0.000	0.0000	0.0008
\$	WNC	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
\$	WNC	TANKER	0.0000	0.000	0.000	0.0000	0.0000	00000	0.000	0.000	0.0000	0.0000
7	СНА	FREIGHTER	0.000	0.000	00000	0.0000	0.0000	00000	0.0000	0.000	0.0000	0.0000
7	СНА	PASSENGER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
7	СНА	TANKER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.0000	0.0000
7	JAC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.0000	0.0000
7	JAC	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000
7	JAC	TANKER	0.0031	0.0008	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	MIA	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000

Diactical MIA Passerices Cargo/Foll. Secring Documents Diffiliary phills Auxiliary Sys. Power Plant Fire HA 7 MIA PASSENCIER 0.0185 0.0000 <th></th> <th></th> <th></th> <th>1</th> <th>Table A.4.3 Risk</th> <th>Based Rankings</th> <th>- Foreign Flag,</th> <th>Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries</th> <th>quency, Injuries</th> <th></th> <th></th> <th></th> <th></th>				1	Table A.4.3 Risk	Based Rankings	- Foreign Flag,	Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
MSO Service Cargo/Poll. Siecring Documenta Drille Auxiliary Syn. Power Phant Fire 1 MIA PASSENGER 0.0165 0.0000 <t< th=""><th></th><th>Bin</th><th></th><th></th><th></th><th></th><th>ב</th><th>evel III Intervention</th><th>Strategy Imports</th><th>nce</th><th></th><th></th><th></th></t<>		Bin					ב	evel III Intervention	Strategy Imports	nce			
MIA PASSENGER 0.0185 0.0000<	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fin	Hull	Lifesaving	Other
MIA TANKER 0.0000 <th>7</th> <th>MIA</th> <th>PASSENGER</th> <th>0.0185</th> <th>0.0000</th> <th>0.0000</th> <th>0.0093</th> <th>0.0000</th> <th>0.000</th> <th>0.0031</th> <th>0.0000</th> <th>0.0000</th> <th>0.000</th>	7	MIA	PASSENGER	0.0185	0.0000	0.0000	0.0093	0.0000	0.000	0.0031	0.0000	0.0000	0.000
PTC FREIGHTER 0.0000<	7	MIA	TANKER	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000
FTC PASSENGER 0.0000<	7	PTC	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SAV FREIGHTER 0.0000<	7	PTC	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
SAV FREIGHTER 0.0000<	7	PTC	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SAV PASSENGER 0.0000<	7	SAV	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
SAV TANKER 0.0000 <td>7</td> <td>SAV</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>00000</td> <td>0.000</td>	7	SAV	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	00000	0.000
SIP FREIGHTER 0.0000<	7	SAV	TANKER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SIP PASSENGER 0.0000<	7	SJP	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STC FREIGHTER 0.0000<	7	SJP	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000
STC FREIGHTER 0.0000<	7	SJP	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
STC PASSENGER 0.0000<	7	stc	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
STC TANKER 0.0000 <td>7</td> <td>STC</td> <td>PASSENGER</td> <td>0.0000</td>	7	STC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STT FREIGHTER 0.0000<	7	STC	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
STT PASSENGER 0.0000<	7	STT	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
STT TANKER 0.0000 <td>7</td> <td>STT</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>00000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td>	7	STT	PASSENGER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
TAM FREIGHTER 0.00054 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	7	STT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
TAM PASSENGER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	7	TAM	FREIGHTER	0.0085	0.0054	0.0000	0.0008	0.0000	0.0000	0.000	0.000	0.0000	0.0000
	7	TAM	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000

				Table A.4.3 Risk	-Based Rankings	1 - Foreign Flag,	Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin						Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifesaving	Other
7	TAM	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	000000	0.0000
**	BAT	FREIGHTER	0.0039	0.0054	0.000	0.0008	0.0000	0.0015	0.0000	0.0000	0.0000	0.0008
90	BAT	PASSENGER	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	00000	0.000
•	BAT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
•	BRN	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
•	BRN	PASSENGER	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000
•	BRN	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
•	COR	FREIGHTER	0.0085	0.0077	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	00000	0.0000
•	COR	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
8	COR	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	GAL	FREIGHTER	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
*	GAL	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
••	GAL	TANKER	0.0077	0.0093	0.0000	0.0015	0.0000	800000	0.0015	0.0008	0.0000	0.0000
•	ноп	FREIGHTER	0.0371	0.0448	0.0000	0.0046	0.0000	0.0031	0.0000	0.0031	0.0000	0.0015
•••	ноп	PASSENGER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
æ	НОП	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
9 C	ПКС	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
••	LKC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
**	LKC	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Ţ	ıble A.4.3 Risk	Based Rankings	- Foreign Flag,	Table A.4.3 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	luency, Injuries				
	Bia					7	Level III Intervention Strategy Importance	Strategy Imports	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifeaving	Other
•	MOB	FREIGHTER	0.0100	0.0077	0.0000	0.0023	0000'0	8000'0	0.0000	0.0015	0.000	0.0008
S	MOB	PASSENGER	0.000	0.000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000
•	MOB	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
•	MOR	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000
•	MOR	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
•	MOR	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
•	NEW	FREIGHTER	0.0170	0.0293	0.0000	0.0077	0.0000	0.0093	0.000	0.000	0.0000	0.0046
•	NEW	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
••	NEW	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
•	PAT	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
•	PAT	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
•	PAT	TANKER	0.0432	0.0494	0.0000	0.0185	0.0000	0.0062	0.000	0.0124	0.0000	0.0062
•	FCD	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
•	PCD	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
s c	PCD	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
80	PLA	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
•	PLA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
•	PLA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
6	BUF	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

			Ţ	able A.4.3 Risk	-Based Rankings	- Foreign Flag,	Table A.4.3 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					1	Level III Intervention Strategy Importance	Strategy Import	ınce			
District	MSO	Service	Cargo/Polf.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifeaving	Other
6	BUF	PASSENGER	0.0000	0.000	00000	0.0000	00000	0.0000	00000	0.0000	00000	0.0000
6	BUF	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
6	СНІ	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	00000	0.0000
6	СНІ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	00000	0.0000
6	CHI	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	00000	0.000	00000	0.0000
6	CLE	FREIGHTER	0.0000	0.0008	0.0000	0.0008	0.0000	0.000	0.000	0.0000	00000	0.0000
6	CLE	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	00000	00000	0.000
6	CLE	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	00000	0.0000
6	DET	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	00000	00000	0.000
6	DET	PASSENGER	0.0000	0.000	0.0000	0.0000	0.0000	00000	0.0000	00000	00000	0.0000
6	DET	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.0000	00000	0.0000	0.000
6	DUL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.0000	0.0000
6	DUL	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
6	DUL	TANKER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MAS	FREIGHTER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MAS	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MAS	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MIL	FREIGHTER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	MIL	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Ţ	able A.4.3 Risk	-Based Rankings	- Foreign Flag,	Table A.4.3 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					J	Level III Intervention Strategy Importance	Strategy Importa	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliery Sys.	Power Plant	Fire	Hull	Lifeaving	Other
6	MIL	TANKER	0.000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	SIM	FREIGHTER	0.000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
6	SIM	PASSENGER	0.0000	0.0000	0.0000	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.0000
Ó	SIM	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	SSM	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
6	SSM	PASSENGER	0.0000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
6	SSM	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	STB	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	STB	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	STB	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
6	ToL	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	TOL	PASSENGER	0.0000	0.0000	00000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000
6	TOL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	CON	FREIGHTER	0.0015	0.0031	0.000	0.0008	0.0000	0.000	0.0000	0.000	0.0000	0.0000
=	CON	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	CON	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
=	1.08	FREIGHTER	0.0278	0.0324	0.0000	0.0093	0.0000	0.0046	0.0000	0.0023	0.0000	0.0046
=	ros	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
11	1.08	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

			T	Table A.4.3 Risk-	Based Rankings	- Foreign Flag,	Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					7	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifenaving	Other
=	SBC	FREIGHTER	0.000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000
11	SBC	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
=	SBC	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
=	SDC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
=	SDC	PASSENGER	0.0000	00000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000
Ξ	SDC	TANKER	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000
=	SFC	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
=	SFC	PASSENGER	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
=	SFC	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
13	GRA	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
13	GRA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
13	GRA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
13	POR	FREIGHTER	U.0124	0.0093	0.0000	0.0031	0.0000	0.0023	0.0008	0.0008	0.0000	0.0031
13	POR	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
13	POR	TANKER	0.0015	0.0000	0.000	0.0008	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
13	SEA	FREIGHTER	0.0077	0.0046	0.000	0.0008	0.0000	0.0000	0.0008	0.000	0.0000	0.0000
13	SEA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
13	SEA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
7	ASO	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000

				Table A.4.3 Risk-Ba		- Foreign Flag,	sed Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					7	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifesaving	Other
† I	ASO	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000
† 1	ASO	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	00000	0.0000	0.000
14	GUA	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
14	GUA	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.000
7	HON	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	00000	0.000
Bad Data 14	HON	PASSENGER	0.0741	0.0556	0.0000	0.3892	00000	0.0000	0.0000	00000	00000	00000
14	HON	TANKER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
17	ANC	FREIGHTER	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
11	ANC	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000
11	ANC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
11	DHA	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.0000
11	DHA	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
11	DHA	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
17	JUN	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
11	JUN	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
11	NUL	TANKER	0.0000	0.000	0.0000	0.0008	0.0000	0.000	0.000	0.000	0.0000	0.0000
11	KEN	FREIGHTER	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000
17	KEN	PASSENGER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000

		A əlds T	1	Table A.4.3 Risk-Ba	-Based Rankings	1 - Foreign Flag,	ised Rankings - Foreign Flag, MSO, Relative Frequency, Injuries	quency, Injuries				
	Bin					L	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Huff	Lifessving	Other
17	KEN	TANKER	0.0000	0.0000	0.0000	0.000	00000	0.0000	0.0000	0.0000	0.0000	0.0000
17	KET	FREIGHTER	0.0000	0.0000	0.000	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.0000
17	KET	PASSENGER	0.0000	0.0000	0.0000	0.000	000000	0.0000	0.0000	0.0000	0.0000	0.000
17	KET	TANKER	0.0000	0.0000	0.000	0.000	00000	0.0000	0.0000	0.000	0.0000	0.0000
17	КОБ	FREIGHTER	0.0000	0.000	00000	0.0000	0000'0	0.0000	0.0000	0.000	0.0000	0.000
17	KOD	PASSENGER	0.0000	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
17	KOD	TANKER	0.0000	0.000	0.000	0.000	00000	0.0000	0.0000	0.000	0.0000	0.0000
11	SIT	FREIGHTER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
11	sп	PASSENGER	0.000	0.000	0.0000	0.000	0.0000	00000	0.0000	0.000	0.0000	0.0000
17	sп	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
17	VAL	FREIGHTER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000
11	VAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	00000	0.0000	0.0000
17	VAL	TANKER	0.000	0.0000	0.000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000

Table A.4.4 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	incy, Property La	388			
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
1	Bos	FREIGHTER	\$1,469	\$5,875	\$0	0\$	0\$	0\$	0\$	\$1,469	\$0	\$734
1	Bos	PASSENGER	80	0\$	\$0	0\$	0\$	0\$	0\$	0\$	0\$	\$0
-	BOS	TANKER	\$0	0\$	\$0	0\$	\$0	0\$	0\$	0\$	\$0	80
1	LIS	FREIGHTER	\$0	0\$	\$0	\$0	0\$	\$0	0\$	0\$	\$0	\$0
-	LIS	PASSENGER	\$0	0\$	80	\$0	\$0	\$0	\$0	\$0	\$0	80
1	LIS	TANKER	\$93	\$185	0\$	\$0	80	O\$	0\$	0\$	\$0	\$0
1	NYC	FREIGHTER	\$10,066	\$7,669	0\$	\$959	80	\$959	\$1,438	6479	80	\$479
1	NYC	PASSENGER	\$0	0\$	0\$	\$0	\$0	0\$	0\$	0\$	0\$	\$0
1	NYC	TANKER	\$1,544	\$69\$	0\$	\$77	\$0	\$232	\$0	80	\$0	\$0
	POM	FREIGHTER	\$131	\$394	80	\$0	80	\$0	80	\$0	\$0	\$0
	POM	PASSENGER	\$0	0\$	\$0	\$0	\$0	\$0	0\$	9 \$	S	S
-	POM	TANKER	\$263	\$53	80	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	PRO	FREIGHTER	\$94	\$141	0\$	\$24	\$0	\$0	80	\$24	\$0	\$0
-	PRO	PASSENGER	\$0	0\$	0\$, \$0	0\$	\$0	0\$	0\$	80	\$0
1	PRO	TANKER	\$0	80	80	\$0	\$0	\$0	\$0	\$0	0\$	\$0
2	ALL MSO	FREIGHTER	\$0	0\$	80	\$0	\$0	\$0	80	0\$	80	\$0
2	ALL MSOs	PASSENGER	80	0\$	0\$	80	80	80	0\$	0\$	\$0	80

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property L	10			
	Ē					1	Level III Intervention Strategy Importance	Strategy Imports	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifenving	Other
2	ALL MSOs	TANKER	\$0	0\$	80	80	0\$	\$0	\$0	0\$	0\$	0\$
8	BAL	FREIGHTER	\$3,651	\$5,476	80	\$16\$	0\$	\$456	\$0	\$456	\$0	S
\$	BAL	PASSENGER	\$0	80	\$0	0\$	0\$	\$0	\$0	0\$	0\$	S
\$	BAL	TANKER	\$0	80	\$0	0\$	\$0	\$0	\$0	0\$	%	80
8	HMR	FREIGHTER	\$372	\$372	\$0	\$62	\$0	\$31	S	\$31	0\$	\$31
8	HMR	PASSENGER	\$0	80	\$0	\$0	\$0	\$0	S	80	\$0	8
\$	HMR	TANKER	80	\$0	\$0	\$0	\$0	\$0	0\$	\$	80	8
8	PHI	FREIGHTER	\$19,058	\$15,485	\$0	\$1,191	0\$	8	%	161,18	\$0	S
\$	PHI	PASSENGER	\$0	\$0	\$0	\$0	\$0	S	\$	\$0	80	9\$
\$	PHI	TANKER	\$978	\$267	\$0	\$178	\$0	80	\$0	0\$	80	\$178
\$	WNC	FREIGHTER	\$185	\$139	\$0	\$46	0\$	\$46	\$0	\$	\$0	\$46
\$	WNC	PASSENGER	\$0	\$0	\$0	\$0	80	\$0	\$	\$0	0\$	S
\$	WNC	TANKER	\$347	\$927	\$0	\$116	80	\$0	\$0	0\$	\$	S
7	CHA	FREIGHTER	\$0	\$0	\$0	80	80	\$0	\$0	\$0	S	\$
4	СНА	PASSENGER	\$0	\$0	\$0	\$0	0\$	\$0	\$	0\$	\$0	\$0
1	СНА	TANKER	\$0	\$0	\$0	. \$0	80	\$0	\$0	\$0	\$0	8
1	JAC	FREIGHTER	\$936	\$156	\$0	\$0	\$0	\$0	\$0	\$156	88	\$156
1	JAC	PASSENGER	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$
7	JAC	TANKER	80	80	80	80	\$0	\$0	\$0	\$0	\$0	\$0

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property L	44			
	Bin					7	Level III Intervention Strategy Importance	Strategy Imports	nce			. ==
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
7	MIA	FREIGHTER	\$33,924	\$13,239	0\$	\$827	0\$	0\$	\$0	\$4,137	\$0	\$827
7	MIA	PASSENGER	\$46	0\$	0\$	\$23	0\$	\$0	\$8	0\$	\$	S
7	MIA	TANKER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$0	S.
7	PTC	FREIGHTER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$0	\$0
7	PTC	PASSENGER	80	0\$	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$
7	PTC	TANKER	0\$	0\$	\$0	0\$	0\$	\$0	\$0	0\$	\$0	%
7	SAV	FREIGHTER	\$284	\$150	\$0	0\$	0\$	\$50	\$17	0\$	\$0	\$17
7	SAV	PASSENGER	0\$	80	\$0	0\$	0\$	\$0	\$0	0\$	\$0	\$0
7	SAV	TANKER	\$0	\$116	80	0\$	0\$	80	\$0	0\$	\$0	\$0
7	SJP	FREIGHTER	\$25,715	\$18,001	\$0	0\$	\$0	\$0	\$2,572	80	\$0	Q \$
7	SJP	PASSENGER	\$8	\$18	\$0	0\$	\$0	\$8	\$8	0\$	50	\$0
7	SJP	TANKER	\$100	\$46	\$0	0\$	80	\$0	\$0	88	\$0	\$0
7	stc	FREIGHTER	\$0	\$0	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$
7	STC	PASSENGER	\$0	\$0	\$0	\$0	80	\$0	0\$	0\$	\$0	0\$
7	stc	TANKER	\$0	\$0	\$0	80	80	\$0	0\$	0\$	S	%
7	str	FREIGHTER	\$0	\$0	\$0	. \$0	\$0	\$	0\$	0\$	\$0	%
7	str	PASSENGER	\$0	\$0	\$0	80	80	\$	0\$	0\$	\$0	05
7	STT	TANKER	\$0	\$0	\$0	80	\$ 0	\$	0\$	\$0	\$0	\$0
7	TAM	FREIGHTER	\$229	\$146	\$0	\$21	80	\$0	\$0	\$0	80	\$0

			Tabi	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	incy, Property L	1 50			
	Bin					ר	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeseving	Other
7	TAM	PASSENGER	\$0	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$0	S
7	TAM	TANKER	\$1	0\$	0\$	80	0\$	0\$	\$0	\$0	\$0	0\$
8	BAT	FREIGHTER	\$135	681\$	0\$	\$27	0\$	\$54	\$0	0\$	\$0	\$27
••	BAT	PASSENGER	\$0	0\$	80	\$0	\$0	0\$	\$0	0\$	\$0	S
90	BAT	TANKER	\$0	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$0	0 \$
••	BRN	FREIGHTER	\$0	0\$	0\$	0\$	\$0	\$0	\$0	0\$	\$0	0\$
••	BRN	PASSENGER	\$0	0\$	0\$	0\$	\$0	\$0	\$0	0\$	\$0	0\$
8	BRN	TANKER	\$0	80	0\$	0\$	80	0\$	\$0	0\$	\$0	0 \$
••	COR	FREIGHTER	\$4,375	53,977	0\$	\$398	80	80	\$0	0\$	\$0	0 \$
•	COR	PASSENGER	\$0	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$0	0\$
sc	COR	TANKER	\$1,442	\$1,282	\$0	\$0	80	S	\$0	0\$	\$0	\$160
•	GAL	FREIGHTER	\$1,036	\$2,901	80	\$0	80	0\$	80	0\$	\$	9
•	GAL	PASSENGER	80	80	80	\$0	80	0\$	\$0	0\$	8	\$
•	GAL	TANKER	099\$	\$792	\$0	\$132	0\$	\$66	\$132	\$66	0\$	8
•	ноп	FREIGHTER	\$32,817	\$39,654	80	\$4,102	80	\$2,735	\$0	\$2,735	S	\$1,367
•	ноп	PASSENGER	0\$	\$0	80	- \$0	80	0\$	\$0	0\$	Q S	\$
•••	ноп	TANKER	0\$	80	\$0	\$0	0\$	0\$	\$0	\$0	0\$	\$0
80	ПКС	FREIGHTER	\$222	\$776	\$0	\$0	\$0	\$111	\$0	\$0	S	\$111
•	LKC	PASSENGER	\$0	\$0	80	0\$	\$0	\$0	0\$	\$0	\$0	0\$

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property L	980			
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
•	LKC	TANKER	\$0	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	SS.
••	MOB	FREIGHTER	\$108	\$83	\$0	\$25	0\$	88	0\$	218	0\$	\$\$
**	MOB	PASSENGER	\$0	\$0	\$0	\$0	0\$	0\$	0\$	0\$	O\$	\$0
••	MOB	TANKER	\$355	\$355	0\$	\$178	0\$	0\$	0\$	0\$	0\$	0\$
•	MOR	FREIGHTER	\$0	\$0	\$0	\$0	80	0\$	0\$	0\$	0\$	0\$
**	MOR	PASSENGER	\$0	\$0	\$0	\$0	80	0\$	0\$	8	S	0\$
•	MOR	TANKER	\$17	\$8	\$0	\$0	\$0	0\$	8\$	0\$	S	80
•••	NEW	FREIGHTER	\$23,619	\$40,797	\$0	\$10,736	\$0	\$12,883	0\$	0\$	\$0	\$6,442
•••	NEW	PASSENGER	\$0	80	0\$	0\$	80	0\$	0\$	\$0	0\$	0\$
••	NEW	TANKER	\$3,687	\$3,687	\$0	\$819	80	0\$	\$1,229	\$410	0\$	\$819
•	PAT	FREIGHTER	\$383	\$85	\$0	\$0	80	0\$	\$0	0\$	\$0	\$43
••	PAT	PASSENGER	\$0	\$0	\$0	\$0	80	0\$	0\$	0\$	0\$	O\$
••	PAT	TANKER	\$1,408	\$1,609	\$0	\$603	0\$	\$201	0\$	\$402	0\$	\$201
••	PCD	FREIGHTER	80	\$0	\$0	80	\$0	0\$	0\$	80	0\$	0\$
•	PCD	PASSENGER	\$0	\$0	80	\$0	\$0	80	0\$	0\$	0\$	0\$
•	PCD	TANKER	0\$	80	80	0\$	80	\$0	80	\$0	0\$	\$0
•	PLA	FREIGHTER	\$0	80	\$0	0\$	0\$	0\$	0\$	\$0	0\$	\$0
**	PLA	PASSENGER	0\$	\$0	\$0	\$0	\$0	80	\$0	S	0\$	\$
••	PLA	TANKER	0\$	80	80	80	80	80	\$0	0\$	0\$	\$0

			Tabk	Table A.4.4 Risk-Based		oreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	incy, Property Lo	99.			
	Bin					צ	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	BUF	FREIGHTER	S	\$15	0\$	80	0\$	80	\$0	\$18	\$0	S
6	BUF	PASSENGER	0\$	0\$	80	\$0	0\$	0\$	0\$	S	8	ક્ર
6	BUF	TANKER	0,5	\$0	0\$	0\$	0\$	\$0	80	S	8	\$
6	CHI	FREIGHTER	0\$	0\$	80	0\$	0\$	\$0	0\$	%	\$	\$
6	CHI	PASSENGER	0\$	\$0	os	os	0\$	\$0	0 \$	S	80	8
•	CHI	TANKER	0\$	\$0	O\$	0\$	0\$	\$0	0\$	0\$	\$0	8
6	CLE	FREIGHTER	\$0	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$	8
•	CLE	PASSENGER	0\$	80	0\$	0\$	80	\$0	0\$	90	\$0	S
6	CLE	TANKER	0\$	\$193	0\$	0\$	80	\$0	0\$	S	S	\$
6	DET	FREIGHTER	0\$	0\$	0\$	0\$	80	\$0	Q\$	0\$	S	8
6	DET	PASSENGER	0\$	0\$	80	0\$	0\$	\$0	0\$	8	S	8
6	DET	TANKER	80	0\$	\$0	80	0\$	\$0	\$0	0\$	0\$	8
6	DUL	FREIGHTER	\$2,139	\$2,995	\$0	\$1,284	0\$	\$0	\$428	\$428	0\$	S
6	DUL	PASSENGER	\$0	\$0	80	\$0	0\$	\$0	\$0	\$	\$	S
6	DUL	TANKER	\$0	\$0	0\$	0\$	0 \$	\$0	\$0	\$0	0\$	0\$
•	MAS	FREIGHTER	\$0	\$0	80	80	0\$	\$0	S	S	O \$	\$
•	MAS	PASSENGER	\$0	0\$	80	\$0	0\$	0\$	8	S	9	80
•	MAS	TANKER	\$0	0\$	0\$	80	\$0	0\$	S	S	S	9\$
•	MIL	FREIGHTER	0%	\$116	0\$	\$0	0\$	0\$	80	\$0	0\$	SS.

			Table	Table A.4.4 Risk-Based R	sed Rankings - I	Foreign Flag, M.	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property Le	**			
	. Bi					בן	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Huli	Lifeaving	Other
6	MIL	PASSENGER	0\$	80	\$0	\$0	80	0\$	0\$	0\$	98	8
6	MIL	TANKER	\$	0\$	0\$	0\$	0\$	\$0	Q\$	8	0\$	S
6	SIM	FREIGHTER	\$0	80	0\$	0\$	0\$	\$0	0\$	0\$	\$0	8
6	SIM	PASSENGER	o s	0\$	0\$	0\$	\$0	\$0	0\$	S	\$0	8
6	SIM	TANKER	0\$	0\$	0\$	0\$	80	\$0	S	%	\$0	\$
6	SSM	FREIGHTER	0\$	0\$	0\$	0\$	\$0	80	0\$	\$0	\$0	\$
6	SSM	PASSENGER	0\$	0\$	0\$	0\$	0\$	\$0	\$	8	0\$	S
6	SSM	TANKER	S.	0\$	0\$	0\$	0\$	\$0	0\$	S	\$0	\$
6	STB	FREIGHTER	S	0\$	0\$	0\$	\$0	\$0	S	S.	0\$	\$
6	STB	PASSENGER	95	0\$	80	\$0	80	\$0	S	93	\$0	S
6	STB	TANKER	80	0\$	0\$	\$0	\$0	\$0	0\$	95	8	Ş
6	TOL	FREIGHTER	165,18	\$7,654	\$0	80	\$0	\$0	\$765	\$765	0\$	S
6	TOL	PASSENGER	\$0	0\$	80	\$0	\$0	0\$	0\$	9\$	0\$	Ş
٥	TOL	TANKER	\$0	0\$	\$0	\$0	\$0	\$0	Ş	\$	0\$	ક્ર
=	CON	FREIGHTER	\$0	0\$	\$0	\$0	80	\$0	Ş	S	0\$	S
=	CON	PASSENGER	80	0\$	\$0	- \$0	\$0	0\$	S,	80	\$0	S
=	CON	TANKER	\$0	0\$	\$0	\$0	0\$	\$0	S	\$	0\$	S\$
=	S07	FREIGHTER	\$66,511	\$77,596	\$0	\$22,170	80	\$11,085	S	\$5,543	0\$	\$11,065
=	SO7	PASSENGER	80	\$0	\$0	\$0	0\$	\$0	\$0	\$0	\$0	\$0

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	incy, Property Lo	59.			
	Bin					7	Level III Intervention Strategy Importance	Strategy Importa	nce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
=	100	TANKER	\$77	\$154	\$0	\$0	\$0	\$39	\$0	0\$	\$	S
=	SBC	FREIGHTER	0\$	0\$	\$0	0\$	0\$	\$0	0\$	0\$	\$	S
=	SBC	PASSENGER	0\$	0\$	0\$	0\$	0\$	\$0	\$0	%	8	S
=	SBC	TANKER	0\$	oş.	\$0	0\$	0\$	\$0	\$0	Ş	\$	S
=	SDC	FREIGHTER	0\$	0 \$	0\$	0\$	0\$	\$0	\$0	0\$	\$0	S
=	SDC	PASSENGER	\$0	O\$	0\$	0\$	0\$	\$0	\$0	S,	80	S
=	SDC	TANKER	80	80	0\$	\$0	0\$	0\$	\$0	0\$	8	8
=	SFC	FREIGHTER	\$3,160	\$1,129	0\$	\$451	0\$	\$226	\$226	\$226	8	8
=	SFC	PASSENGER	\$	0\$	0\$	\$0	0\$	\$0	\$0	S	80	8
=	SFC	TANKER	\$772	\$193	0\$	80	0\$	\$0	0\$	S.	0\$	8
13	GRA	FREIGHTER	80	\$0	0\$	\$0	\$0	\$0	\$0	9\$	0\$	8
52	GRA	PASSENGER	0\$	80	0\$	\$0	\$0	80	\$0	8	9\$	S
13	GRA	TANKER	\$0	0\$	0\$	\$0	\$0	\$	\$0	S	O\$	\$
5	70	FREIGHTER	\$3,380	\$2,535	0\$	\$845	\$0	\$634	\$211	\$211	0\$	\$845
13	POR	PASSENGER	0\$	\$0	0\$	\$0	\$0	\$0	0\$	\$0	8	0\$
13	POR	TANKER	80	\$0	80	\$0	\$0	\$0	\$0	\$	0\$	0\$
13	SEA	FREIGHTER	\$626	\$376	0\$	\$63	\$0	\$0	\$63	\$0	0\$	S
13	SEA	PASSENGER	80	\$0	\$0	\$0	\$0	\$0	\$0	\$	0\$	0\$
13	SEA	TANKER	88	\$8	0\$	80	\$0	\$0	\$0	\$0	\$0	\$0

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property L	940			
	Bin					ľ	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
14	ASO	FREIGHTER	0\$	\$0	\$0	0\$	0\$	0\$	0\$	0\$	0\$	Ş
14	ASO	PASSENGER	80	0\$	\$0	0\$	0\$	80	0\$	\$0	S	S
14	ASO	TANKER	\$0	0\$	\$0	0\$	0\$	\$0	0\$	0\$	OS	S.
14	GUA	FREIGHTER	80	0\$	\$0	0\$	0\$	0\$	80	0\$	0\$	Q.
7	GUA	PASSENGER	\$0	\$0	\$0	0\$	0\$	0\$	0\$	0\$	S	O\$
14	GUA	TANKER	\$0	0\$	\$0	0\$	0\$	0\$	\$23	0\$	Q\$	æ
14	HON	FREIGHTER	80	0\$	0\$	0\$	0\$	\$0	0\$	0\$	\$0	S.
Bad Data 14	HON	PASSENGER	\$40,154	\$30,116	0\$	\$210,811	0\$	0\$	80	O \$	0\$	S
14	NOH	TANKER	\$642	\$161	\$0	80	0\$	0\$	\$321	\$	OŞ.	\$161
11	ANC	FREIGHTER	\$232	0\$	\$0	0\$	0\$	0\$	80	\$232	0,5	S
17	ANC	PASSENGER	\$0	\$0	\$0	0\$	\$0	0\$	\$0	0\$	0\$	S
17	ANC	TANKER	0\$	\$0	\$0	\$0	\$0	0\$	\$0	\$0	0\$	\$0
17	DHA	FREIGHTER	\$0	\$0	\$0	\$0	\$0	0\$	\$0	08	0\$	\$0
17	DHA	PASSENGER	0\$	\$0	\$0	0\$	\$0	0\$	\$0	\$0	0\$	0\$
17	DHA	TANKER	80	\$0	\$0	0\$	0\$	0\$	\$0	0\$	0\$	S,
17	JUN	FREIGHTER	\$12	\$30	0\$	0\$	0\$	0\$	0\$	\$	os	0\$
11	JUN	PASSENGER	\$0	\$0	0\$	0\$	0\$	0\$	\$0	0\$	0\$	S.
11	JUN	TANKER	\$0	80	0\$	0\$	0\$	0\$	\$0	\$0	0\$	\$0

			Tabl	Table A.4.4 Risk-Based		Foreign Flag, M	Rankings - Foreign Flag, MSO, Relative Frequency, Property Loss	ncy, Property L	988	***		
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
17	KEN	FREIGHTER	\$0	0\$	0\$	0\$	0\$	\$0	0\$	0\$	80	%
17	KEN	PASSENGER	\$0	\$0	\$0	0\$	\$0	\$0	0\$	0\$	0\$	0\$
17	KEN	TANKER	\$0	80	80	\$0	\$0	\$0	0\$	0\$	0\$	%
17	KET	FREIGHTER	\$0	\$0	80	80	\$0	80	0\$	0\$	0\$	S
17	KET	PASSENGER	0\$	80	\$0	80	\$0	0\$	0\$	0\$	0\$	95
17	кет	TANKER	0\$	\$0	\$0	0\$	\$0	\$0	\$0	\$0	0\$	\$0
17	KOD	FREIGHTER	0\$	\$0	\$0	\$0	80	0\$	0\$	80	0\$	8
17	KOD	PASSENGER	0\$	\$0	80	\$0	\$0	0\$	0\$	80	0\$	Ş
11	KOD	TANKER	0\$	\$0	\$0	\$0	\$0	\$0	0\$	0\$	0\$	S
11	SIT	FREIGHTER	0\$	80	\$0	\$0	\$0	0\$	\$0	80	0\$	8
11	sп	PASSENGER	0\$	\$0	80	\$0	\$0	\$0	\$0	\$0	0\$	8
11	STT	TANKER	\$	80	\$0	\$0	\$0	0\$	\$0	80	\$0	\$0
11	VAL	FREIGHTER	\$0	80	\$0	\$0	\$0	\$0	\$0	80	\$0	8
17	VAL	PASSENGER	\$0	80	\$0	\$0	\$0	0\$	\$0	0\$	\$0	\$
17	VAL	TANKER	\$0	\$0	80	80	\$0	80	0\$	\$0	\$0	\$0

Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution

			Ţ	ible A.4.5 Risk	-Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	luency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Stecring	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
_	BOS	FREIGHTER	0	0	0	0	0	0	0	0	0	0
-	BOS	PASSENGER	0	0	0	0	0	0	0	0	0	0
-	BOS	TANKER	0	0	0	0	0	0	0	0	0	0
-	LIS	FREIGHTER	0	0	0	0	0	0	0	0	0	0
-	LIS	PASSENGER	0	0	0	0	0	0	0	0	0	0
-	LIS	TANKER	0	0	0	0	0	0	0	0	0	0
1	NYC	FREIGHTER	12	6	0	1	0	1	7	1	0.	-
	NYC	PASSENGER	0	0	0	0	0	0	0	0	0	0
-	NYC	TANKER	17	s 0	0	1	0	3	0	0	0	0
	POM	FREIGHTER	0	0	0	0	0	0	0	0	0	0
-	POM	PASSENGER	0	0	0	0	0	0	0	0	0	0
_	POM	TANKER	382	76	0	0	0	0	0	0	0	0
-	PRO	FREIGHTER	0	0	0	0	0	0	0	0	0	0
-	PRO	PASSENGER	0	0	0	0	0	0	0	0	0	0
-	PRO	TANKER	1	0	0	0	0	0	0	0	0	0
2	ALL MSO	FREIGHTER	0	0	0	0	0	0	0	0	0	0
2	ALL MSO:	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Ţ	able A.4.5 Risk	-Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	quency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
2	ALL MSOs	TANKER	0	0	0	0	0	0	0	0	0	0
5	BAL	FREIGHTER	31	47	0	8	0	+	0	7	0	0
8	BAL	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	BAL	TANKER	1	1	0	0	0	0	0	0	0	0
\$	HMR	FREIGHTER	6	6	0	1	0	1	0	1	0	1
\$	HMR	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	HMR	TANKER	87	43	0	=	0	0	0	0	0	0
5	PHI	FREIGHTER	11	6	0	1	0	0	0	1	0	0
5	PHI	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	PHI	TANKER	9	2	0	-	0	0	0	0	0	1
\$	WNC	FREIGHTER	2	-	0	0	0	0	0	0	0	0
3	WNC	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	WNC	TANKER	C	0	0	0	0	0	0	0	0	0
7	CHA	FREIGHTER	15	-	0	0	0	0	0	0	0	0
7	CHA	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	CHA	TANKER	0	0	-0	0	0	0	0	0	0	0
7	JAC	FREIGHTER	-	0	0	0	0	0	0	0	0	0
7	JAC	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	JAC	TANKER	2	-	0	-	0	0	0	0	0	0

			Ţ	Table A.4.5 Risk-Ba	Based Rankings	- Foreign Flag,	sed Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	uency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	·Fire Prevention	Hull	Lifessving	Other
7	MIA	FREIGHTER	4770	1861	0	116	0	0	0	282	0	911
7	MIA	PASSENGER	1	0	0	1	0	0	0	0	0	0
7	MIA	TANKER	0	0	0	0	0	0	0	0	0	0
7	PTC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
7	PTC	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	PTC	TANKER	0	0	0	0	0	0	0	0	0	0
7	SAV	FREIGHTER	15	œ	0	0	0	3	1	0	0	ı
7	SAV	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	SAV	TANKER	0	0	0	0	0	0	0	0	0	0
7	SJP	FREIGHTER	-	-	0	0	0	0	0	0	0	0
7	SJP	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	SJP	TANKER	30	14	0	0	0	0	0	2	0	0
7	ѕтс	FREIGHTER	0	0	0	0	0	0	0	0	0	0
7	STC	PASSENGER	0	0	0	0 .	0	0	0	0	0	0
7	STC	TANKER	0	0	0	0	0	0	0	0	0	0
7	str	FREIGHTER	0	0	. 0	0	0	0	0	0	0	0
7	STT	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	STT	TANKER	0	0	0	0	0	0	0	0	0	0
7	TAM	FREIGHTER	\$	3	0	0	0	0	0	0	0	0

			Ţ	ıble A.4.5 Risk	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	luency, Pollution				
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
7	TAM	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	TAM	TANKER	1	0	0	0	0	0	0	0	0	0
8	BAT	FREIGHTER	**	П	0	2	0	3	0	0	0	2
•	BAT	PASSENGER	0	0	0	0	0	0	0	0	0	0
•	BAT	TANKER	0	0	0	0	0	0	0	0	0	0
**	BRN	FREIGHTER	0	0	0	0	0	0	0	0	0	0
•	BRN	PASSENGER	0	0	0	0	0	0	0	0	0	0
••	BRN	TANKER	0	0	0	0	0	0	0	0	0	0
**	COR	FREIGHTER	11	01	0	1	0	0	0	0	0	0
8	COR	PASSENGER	0	0	0	0	0	0	0	0	0	0
**	COR	TANKER	149	133	0	0	0	0	0	0	0	17
10	GAL	FREIGHTER	3	7	0	0	0	0	0	0	0	0
ec.	GAL	PASSENGER	0	0	0	0	0	0	0	0	0	0
•	GAL	TANKER	31	37	0	9	0	3	9	3	0	0
•	нои	FREIGHTER	4688	\$665	0	586	0	391	0	391	0	195
•	ноп	PASSENGER	0	0	0	0	0	0	0	0	0	0
•	НОП	TANKER	0	0	0	0	0	0	0	0	0	0
•	LKC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
**	LKC	PASSENGER	0	0	0	0	0	0	0	0	0	0

			T	ible A.4.5 Risk	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	uency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifemving	Other
s 0	UKC	TANKER	0	0	0	0	0	0	0	0	0	0
8	MOB	FREIGHTER	11	13	0	7	0	1	0	3	0	1
•	MOB	PASSENGER	0	0	0	0	0	0	0	0	0	0
₩	MOB	TANKER	3	ε	0	2	0	0	0	0	0	0
•	MOR	FREIGHTER	0	0	0	0	0	0	0	0	0	0
80	MOR	PASSENGER	0	0	0	0	0	0	0	0	0	0
88	MOR	TANKER	0	0	0	0	0	0	0	0	0	0
€0	NEW	FREIGHTER	\$	6	0	2	0	3	0	0	0	1
•••	NEW	PASSENGER	0	0	0	0	0	0	0	0	0	0
8	NEW	TANKER	11	11	0	2	0	0	4	1	0	2
**	PAT	FREIGHTER	9	1	0	0	0	0	0	0	0	1
•	PAT	PASSENGER	0	0	0	0	0	0	0	0	0	0
•	PAT	TANKER	99	74	0	28	0	6	0	19	0	6
•••	PCD	FREIGHTER	0	0	0	0	0	0	0	0	0	0
ec	PCD	PASSENGER	0	0	0	0	0	0	0	0	0	0
80	PCD	TANKER	0	0	, 0	0	0	0	0	0	0	0
sc	PLA	FREIGHTER	0	0	0	0	0	0	0	0	0	0
•	PLA	PASSENGER	0	0	0	0	0	0	0	0	0	0
•	PLA	TANKER	0	0	0	0	0	0	0	0	0	0

			T	ble A.4.5 Risk	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	luency, Pollution				
	Bin					7	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	BUF	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	BUF	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	BUF	TANKER	0	0	0	0	0	0	0	0	0	0
6	CHI	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	CHI	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	CHI	TANKER	0	0	0	0	0	0	0	0	0	0
6	cre	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	cre	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	CLE	TANKER	0	0	0	0	0	0	0	0	0	0
6	DET	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	DET	PASSENGER	0	0	0	0	0	0	0	0	0	0
٥	DET	TANKER	0	0	0	0	0	0	0	0	0	0
6	DUL	FREIGHTER	0	1	0	0	0	0	0	0	0	0
6	DUL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	DUL	TANKER	0	0	0	0	0	0	0	0	0	C
6	MAS	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	MAS	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	MAS	TANKER	0	0	0	0	0	0	0	0	0	0
6	MIL	FREIGHTER	0	0	0	0	0	0	0	0	0	0

			Ţ	ible A.4.5 Risk	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	quency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Import	ınce			
District	MSO	Service	Cergo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	MIL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	MIL	TANKER	0	0	0	0	0	0	0	0	0	0
6	SIM	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	SIM	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	SIM	TANKER	0	0	0	0	0	0	0	0	0	0
6	SSM	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	SSM	PASSENGER	0	0	0	0	0	0	0	0	0 .	0
6	SSM	TANKER	0	0	0	0	0	0	0	0	0	0
6	STB	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	STB	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	STB	TANKER	0	0	0	0	0	0	0	0	0	0
6	Tol	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	TOL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	TOL	TANKER	0	0	0	0	0	0	0	0	0	0
=	CON	FREIGHTER	10	20	0	\$	0	0	0	0	0	0
Ξ	CON	PASSENGER	0	0	0	0	0	0	0	0	0	0
=	CON	TANKER	0	0	0	0	0	0	0	0	0	0
11	S 07	FREIGHTER	6		0	3	0	2	0	1	0	2
=	S07	PASSENGER	0	0	0	0	0	0	0	0	0	0

			Ţ	ble A.4.5 Risk-	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	luency, Pollution				
	Bin					ı	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
=	ros	TANKER	0	-	0	0	0	0	0	0	0	0
=	SBC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
=	SBC	PASSENGER	0	0	0	0	0	0	0	0	0	0
=	SBC	TANKER	0	0	0	0	0	0	0	0	0	0
11	SDC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
=	SDC	PASSENGER	0	0	0	0	0	0	0	0	0	0
=	SDC	TANKER	0	0	0	0	0	0	0	0	0	0
=	SFC	FREIGHTER	12	+	0	2	0	1	1	-	0	0
11	SFC	PASSENGER	0	0	0	0	0	0	0	0	0	0
=	SFC	TANKER	0	0	0	0	0	0	0	0	0	0
13	GRA	FREIGHTER	0	0	0	0	0	0	0	0	0	0
13	GRA	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	GRA	TANKER	0	0	0	0	0	0	0	0	0	0
13	POR	FREIGHTER	82	19	0	20	0	15	\$	\$	0	20
13	POR	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	POR	TANKER	0	0	0	0 -	0	0	0	0	0	0
13	SEA	FREIGHTER	10	9	0	-	0	0	1	0	0	0
13	SEA	PASSENGER	0	0	0	0	0	0	0	0	0	0
13	SEA	TANKER	0	0	0	0	0	0	0	0	0	0

			Ţ	Table A.4.5 Risk-Bas	Based Rankings	- Foreign Flag,	ed Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	luency, Pollution				
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poli.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
14	A50	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	A50	PASSENGER	0	0	0	0	0	0	0	0	0	o
14	ASO	TANKER	0	0	0	0	0	0	0	0	0	0
7	QUA	FREIGHTER	0	0	0	0	0	0	0	0	0	0
*	GUA	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	₽NA	TANKER	0	0	0	0	0	0	0	0	0	0
7	HON	FREIGHTER	-	0	0	0	0	0	0	0	0	0
Bad Data 14	HON	PASSENGER	0	0	0	0	0	0	0	0	0	0
14	HON	TANKER	0	0	0	0	0	0	0	0	0	0
17	ANC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	ANC	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	ANC	TANKER	0	0	0	0	0	0	0	0	0	0
11	DHA	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	DHA	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	DHA	TANKER	0	0	0	0	0	0	0	0	0	0
17	NDI	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	NOr	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	JUN	TANKER	0	0	0	0	0	0	0	0	0	0

			Ţ	ible A.4.5 Risk-	Based Rankings	- Foreign Flag,	Table A.4.5 Risk-Based Rankings - Foreign Flag, MSO, Relative Frequency, Pollution	quency, Pollution	_			
	Bin					J	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving	Other
17	KEN	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	KEN	PASSENGER	0	0	0	0	0	0	0	0	0 -	0
17	KEN	TANKER	0	0	0	0	0	0	0	0	0	0
17	KET	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	КЕТ	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	KET	TANKER	0	0	0	0	0	0	0	0	0	0
17	КОД	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	КОД	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	KOD	TANKER	0	Ò	0	0	0	0	0	0	0	0
17	SIT	FREIGHTER	0	0	0	0	0	0	0	0	0	0
11	srr	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	SIT	TANKER	0	0	0	0	0	0	0	0	0	0
11	VAL	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	VAL	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	VAL	TANKER	0	0	0	0	0	0	0	0	0	0

Table A.4.6 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths

T	T		7	-	7	. T	7	-7	<u> </u>	-		7	T	7	7	T			
		Other	0.000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
		Lifesaving	0.0000	0.0000	0.000	0.000	00000	0.000	0.0000	00000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000
		Hull	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	nce	Fire Prevention	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
quency, Deaths	Strategy Importa	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	00000	00000	0.000	0.000
ased Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
- Foreign Flag,	2	Drills	0.0000	0.0000	0.0000	0.0000	0:0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-Based Rankings		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000,	0.0000	0.0000	0.000
Table A.4.6 Risk-B		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ţ		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
	Bin	MSO	BOS	BOS	BOS	LIS	LIS	LIS	NYC	NYC	NYC	POM	POM	POM	PRO	PRO	PRO	ALL MSOs	ALL MSOs
		District	-	-	-	-	-		-	_	_	_	-	-	-	-		2	2

		Other	0.0000	0.0000	0.000	0.000	0.0013	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Lifesaving	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0013	0.0000	0.0000	0.0009	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	ınce	Fire Prevention	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
equency, Deaths	Strategy Imports	Power Plant	0000'0	0.000	0.000	0.000	0.0013	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.6 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ı - Foreign Flag,	נ	Drills	0.0000	0.000	0.0000	0.0000	0.0027	0.0000	0.0000	0.0009	0.0000	0.0000	0.0000	0.0000	0.0476	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-Based Rankings		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
able A.4.6 Risk		Steering	0.0000	0.0000	0.0000	0.0000	0.0160	0.0000	0.0000	0.0115	0.0000	0.0000	0.0000	0.0000	0.3810	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T		Cargo/Poll.	0.000	0.0000	0.0000	0.0000	0.0160	0.0000	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.1429	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	ALL MSOs	BAL	BAL	BAL	HMR	HMR	HMR	ІНА	РНІ	РНІ	WNC	WNC	WNC	СНА	СНА	СНА	JAC	JAC	JAC
		District	2	5	5	5	\$	\$	\$	\$	\$	\$	\$	5	5	4	7	7	7	7	7

	Steering 0.0435 0.0000 0.0000 0.0000 0.0000 0.0000			Occuments 0.0000 0.0000 0.0000 0.0000	Drills 0.0027 0.0000 0.0000 0.0000	Auxiliary Sys. Power Plant Pauxi 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	Documents Drills Auxiliary Sys. Power Plant 0.0000 0.0027 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	Fire Prevention 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	Hull 0.0136 0.0000 0.0000 0.0000	Lifeaving 0.0000 0.0000 0.0000 0.0000	Other 0.0027 0.0000 0.0000 0.0000 0.0000
SAV SAV SIP	FREIGHTER PASSENGER TANKER FREIGHTER	0.0000	0.0000	000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000.0	0.0000
	PASSENGER TANKER FREIGHTER PASSENGER	0.0000	0.000.0	000000	0.0000	0.000.0	0.000.0	000000	0.0000	000000	0.000.0
	TANKER FREIGHTER PASSENGER TANKER	000000	0.0000	0.0000	0,0000	0000.0	0.0000	0.0000	0,0000	0000.0	0.000.0

			T	Table A.4.6 Risk-l	t-Based Ranking	s - Foreign Flag	Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	equency, Deaths				
	Bin					7	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
7	TAM	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
7	TAM	TANKER	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
8	BAT	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
8	BAT	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
€0	BAT	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	BRN	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
•	BRN	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
90	BRN	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000
e0	COR	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
∞	COR	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
80	COR	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
•	GAL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
**	GAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000
80	GAL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
&	пон	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
•	ноп	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
s c	ноп	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000
80	LKC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000
o c	LKC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

Steering Documents Fire Hall Lifeaving Obserting 0.0000 0.000			L	Table A.4.6 Risk-Ba		s - Foreign Flag	sed Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	equency, Deaths				
Documents Drills Auxiliary Sys. Power Plant Fine Prevention Hull Lifeaving 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0 0.0000	Bin					7	evel III Intervention	Strategy Imports	ınce			
0.0000 0.0000<	MSO Service Cargo/Poll.	Cargo/Poll.		Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
00000 00000 <th< td=""><td>TANKER 0.0000</td><td>0.0000</td><td></td><td>0.000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td>00000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td></th<>	TANKER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000
0,0000 0,0000<	FREIGHTER 0.0252	0.0252		0.0194	0.0000	0.0058	0.0000	0.0019	0.0000	0.0039	0.0000	0.0019
0,0000 0,0000<	PASSENGER 0.0000	0.0000	_	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
0,0000 0,0000<	TANKER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
0,0000 0,0000<	FREIGHTER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
0,0000 0,0000<	PASSENGER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
0,0000 0,0000<	TANKER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
0.0000 0.0000<	FREIGHTER 0.0046	0.0046		0.0079	0.0000	0.0021	0.0000	0.0025	0.0000	0.0000	0.000	0.0012
0.0000 0.0000<	PASSENGER 0.0000	0.0000		0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000
0000.0 0000.0<	TANKER 0.0419	0.0419		0.0419	0.0000	0.0093	0.0000	0.000	0.0140	0.0047	0.0000	0.0093
0000.0 0000.0<	FREIGHTER 0.0000	0.000		0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
0000.0 0000.0 <td>PASSENGER 0.0000</td> <td>0.0000</td> <td></td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td>	PASSENGER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
0000.0 0000.0<	TANKER 0.0000	0.000		0.0000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
0000.0 0000.0<	FREIGHTER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
0000.0 0000.0<	PASSENGER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000
0000.0 0000.0<	TANKER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
00000 00000 00000 00000 00000 00000 00000	FREIGHTER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
000000 000000 000000 000000 000000 00000	PASSENGER 0.0000	0.0000		0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
	TANKER 0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

¥

Birth MSO Service Cargo-Poll Secrite Diction Diction				1	Table A.4.6 Risk-1	c-Based Ranking	s - Foreign Flag	Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	equency, Deaths				
MSO Service Chago/Poll. Steering Documental Originary Syr. Power Plant Fine Hull Hull Lifeativing 9 BLYS FREGITTER 0.0000		Bin					T	evel III Intervention	1 Strategy Imports	Ince			
BUF FREIGHTER 0.0000<	District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	· Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
BUF PASSENGER 0,0000<	6	BUF	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000
CHI PASEBIGIER 0.0000	6	BUF	PASSENGER	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
CHI PASSENGER 0.0000<	6	BUF	TANKER	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
CHI PASSENGER 0.0000<	6	СНІ	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
CHI TANKER 0.0000 <td>6</td> <td>СНІ</td> <td>PASSENGER</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td>	6	СНІ	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000
CLE FREIGHTER 0.0000<	6	СНІ	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
CLE PASSENGER 0.0000<	6	CLE	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CLE TANKER 0.0000 <td>6</td> <td>CLE</td> <td>PASSENGER</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	6	CLE	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DET FREIGHTER 0.0000<	6	CLE	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
DET PASSENGER 0.0000<	6	DET	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000
DET TANKER 0.0000 <td>6</td> <td>DET</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.000</td> <td>0.0000</td>	6	DET	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000
DUL FREIGHTER 0.0388 0.0543 0.0000 0.0233 0.0000<	6	DET	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
DUL PASSENGER 0.0000<	6	DUL	FREIGHTER	0.0388	0.0543	0.000	0.0233	0.0000	0.0000	0.0078	0.0078	0.0000	0.0000
DUL TANKER 0.0000 <td>6</td> <td>DUL</td> <td>PASSENGER</td> <td>0.0000</td>	6	DUL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MAS FREIGHTER 0.0000<	6	DUL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
MAS PASSENGER 0.0000<	6	MAS	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
MAS TANKER 0.0000 <td>6</td> <td>MAS</td> <td>PASSENGER</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.000</td> <td>0.0000</td> <td>0.0000</td> <td>0.0000</td>	6	MAS	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
MIL FREIGHTER 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	6	MAS	TANKER	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
	6	MIL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			L	Table A.4.6 Risk-Ba		s - Foreign Flag,	sed Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	equency, Deaths				
	Bin					L	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	MIL	PASSENGER	0.000	0.0000	0.000	00000	0.0000	00000	0000'0	0.0000	0.0000	0.0000
6	MIL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	00000	0.0000
6	SIM	FREIGHTER	0.0000	0.0000	0.0000	00000	0.0000	0.000	00000	0.0000	0.0000	0.0000
6	SIM	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.000	0.0000	0.0000
6	SIM	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0000
6	SSM	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	00000	0.000	0.0000	0.0000
6	SSM	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	SSM	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000
6	STB	FREIGHTER	0.0000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000
6	STB	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000
6	STB	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000
6	TOL	FREIGHTER	0.000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
6	TOL	PASSENGER	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
6	TOL	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000
11	CON	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.0000
11	CON	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000
11	CON	TANKER	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000
11	ros	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	SOT	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.0000

		Other	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0058	0.0000	0.0000	0.0000	0.0000	0.0000
		Lifesaving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Hull	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0015	0.0000	0.0000	0.0000	0.0000	0.000
	nce	Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000
quency, Deaths	Strategy Imports	Power Plant	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0044	0.0000	0.0000	0.0000	0.0000	0.0000
Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ı - Foreign Flag,	ኋ	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0058	0.0000	0.0000	0.0000	0.0000	0.000
-Based Ranking		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.6 Risk-1		Steering	0.000	0.000	0.000	0.000	0.0000	0.000	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.0000	0.0174	0.0000	0.0000	0.0000	0.0000	0.0000
T		Cargo/Poll.	0.000	0.000	0.000	0.000	0.000	0.000	00000	00000	0.000	0.0000	00000	00000	0.000	0.0232	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	TANKER	FREIGHTER	PASSENGER	TANKER															
	Bin	MSO	S07	SBC	SBC	SBC	ods	SDC	ogs	SFC	SFC	SFC	GRA	GRA	GRA	POR	POR	POR	SEA	SEA	SEA
		District	11	11	11	11	11	11	11	11	11	11	13	13	13	13	13	13	13	13	13

			1	Table A.4.6 Risk-l	-Based Rankings	s - Foreign Flag,	Based Rankings - Foreign Flag, MSO, Casualty Frequency, Deaths	equency, Deaths				
	Bin					ח	Level III Intervention Strategy Importance	Strategy Importa	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
14	VS O	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	00000	0.0000
14	ASO	PASSENGER	00000	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
14	ASO	TANKER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	GUA	FREIGHTER	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	GUA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.0000
14	HON	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	HON	PASSENGER	0.2105	0.1579	0.0000	1.1053	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	HON	TANKER	0.0000	0.0000	00000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
14	ANC	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000
14	ANC	PASSENGER	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
11	ANC	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	DHA	FREIGHTER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	DHA	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	DHA	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	JUN	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	JUN	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
17	JUN	TANKER	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	KEN	FREIGHTER	0.0000	0.0000	000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			L	able A.4.6 Risk	-Based Ranking	s - Foreign Flag,	Table A.4.6 Risk-Based Rankings - Foreign Flag, MSO, Casually Frequency, Deaths	equency, Deaths				
	Bin					7	Level III Intervention Strategy Importance	Strategy Importa	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
11	KEN	PASSENGER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	00000	0.0000
17	KEN	TANKER	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
11	KET	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.000
17	KET	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
17	KET	TANKER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	00000	0.0000
17	KOD	FREIGHTER	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.0000
17	KOD	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.000
11	KOD	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	00000
11	SIT	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.000
17	SIT	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
17	επ	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	00000	0.0000
11	VAL	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
17	VAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000
17	VAL	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries

		L	0.000.0	0.000.0	0.000.0	0.000.0	0.0000	0.000.0	0.0027	0.000.0	0.000.0	0.000.0	0.000.0	0.000.0	0.000.0	0.000.0	0.000.0	0.000.0	0.0000
		Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Lifesaving	00000	00000	0.0000	0.0000	0000'0	00000	00000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0078	0.0000	0.0000	0.0000	0.0000
	nce	Fire Prevention	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0080	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
quency, Injuries	Strategy Importa	Power Plant	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0053	0.000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
- Foreign Flag,	ን	Drills	0.0000	0.0000	0.000	0.0063	0.0000	0.0000	0.0053	0.0000	0.0037	0.000	0.0000	0.0000	0.0078	0.0000	0.0000	0.0000	0.0000
-Based Rankings		Documents	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
able A.4.7 Risk		Steering	0.0000	0.0000	0.0000	0.0250	0.0000	0.000	0.0426	0.0000	0.0331	0.0000	0.0000	0.0000	0.0469	0.0000	0.0000	0.0000	0.0000
T		Cargo/Poll.	0.000	0.000	0.000	0.0188	0.000	0.000	0.0559	0.000	0.0735	0.000	0.000	0.0000	0.0313	0.0000	0.0000	0.000	0.0000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
	Bin	MSO	BOS	BOS	BOS	LIS	LIS	SIT	NYC	NYC	NYC	POM	РОМ	POM	PRO	PRO	PRO	ALL MSOs	ALL MSOs
		District	1	1				-	-	-	-	-	-	-	-	-		2	2

		Lifeaving Other	0.0000 0.0000	0.000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0013	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000	0.000.0	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.000 0.0000	0.000 0.0000	0.0000 0.0000	0.0000 0.0000
		Hull	0.000	0.0038	0.000	0.000	0.0013	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000
	ınce	Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
equency, Injuries	Strategy Importa	Power Plant	0.000	0.0038	0.0000	0.0000	0.0013	0.000	0.000	00000	0.0000	0.000	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ı - Foreign Flag,	נ	Drills	0.0000	0.0076	0.0000	0.0000	0.0027	0.0000	0.0000	0.0000	0.0000	0.0235	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0667
-Based Rankings		Documents	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.7 Risk-1		Steering	0.000	0.0455	0.0000	0.0000	0.0160	0.0000	0.0000	0.0000	0.0000	0.0353	0.0158	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0667
L		Cargo/Poll.	0.0000	0.0304	0.0000	0.0000	0910'0	0.0000	00000	00000	00000	0.1294	0.0211	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2667
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	ALL MSO8	BAL	BAL	BAL	HMR	HMR	HMR	РНІ	PHI	РНІ	WNC	WNC	WNC	СНА	СНА	СНА	JAC	JAC	JAC
		District	2	5	5	\$	5	5	5	5	\$	\$	\$	8	\$	7	7	7	7	7	7

			T	able A.4.7 Risk	-Based Rankings	- Foreign Flag,	Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	equency, Injuries				
	Bin					ב	Level III Intervention Strategy Importance	Strategy Imports	ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
7	MIA	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	MIA	PASSENGER	1.6000	00000	0.0000	0.8000	0.0000	0.000	0.2667	0.0000	0.0000	0.0000
7	MIA	TANKER	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	PTC	FREIGHTER	0.0000	000000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
7	PTC	PASSENGER	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000
7	PTC	TANKER	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
7	SAV	FREIGHTER	0.0000	00000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
7	SAV	PASSENGER	0.000	0.000	000000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000
7	SAV	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000
7	SIP	FREIGHTER	0.0000	00000	0.0000	0.0000	00000	0.000	0.0000	0.0000	0.000	0.000
7	SJP	PASSENGER	0.0000	0.0000	000000	0.0000	00000	0.0000	0.0000	0.0000	0.000	0.000
7	SJP	TANKER	0.0000	0.0000	0.0000	0.0000	00000	0.000	0.0000	0.0000	0.0000	0.000
7	STC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.000
7	STC	PASSENGER	0.0000	0.0000	000000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	STC	TANKER	0.0000	00000	000000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
7	STT	FREIGHTER	0.0000	0000:0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
7	STT	PASSENGER	0.0000	0.0000	000000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000
7	STT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000
7	TAM	FREIGHTER	0.0248	0.0158	0.0000	0.0023	0.0000	0.0000	0.0000	0.0000	0.000	0.0000

			T	able A.4.7 Risk	-Based Rankings	- Foreign Flag.	Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency. Injuries	equency. Injuries				
	Bin					L	Level III Intervention Strategy Importance	1 Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	IInH	Lifesaving	Other
7	ТАМ	PASSENGER	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
7	TAM	TANKER	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.0000
•	ВАТ	FREIGHTER	0.0209	0.0293	0.0000	0.0042	0.0000	0.0084	0.0000	0.0000	0.0000	0.0042
•	BAT	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
•	BAT	TANKER	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
∞	BRN	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000
∞	BRN	PASSENGER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
s c	BRN	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
•	COR	FREIGHTER	0.0282	0.0256	0.0000	0.0026	0.0000	0.000	0.0000	0.000	0.000	0.0000
∞	COR	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
•	COR	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000
•	GAL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
90	GAL	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
8 0	GAL	TANKER	0.0787	0.0945	0.0000	0.0157	0.0000	0.0079	0.0157	0.0079	0.000	0.0000
æ	ноп	FREIGHTER	0.0449	0.0543	0.0000	0.0056	0.0000	0.0037	0.000	0.0037	0.000	0.0019
•	ноп	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
6 0	ноп	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.0000
ec	LKC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000
80	пкс	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000

		Other	0.0000	0.0019	0.0000	0.000.0	0.0000	0.0000	0.000	0.0025	0.0000	0.000.0	0.0000	0.000.0	0.0541	0.000	0.000	0.000.0	0.000.0	0.0000	0.0000
		•							0	0	°		•	0	0	0	0	0	ò	Ö	Ö
		Lifesaving	0.0000	0000'0	00000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
		Hull	0.0000	0.0039	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.1081	0.000	0.000	0.000	0.0000	0.000	0.0000
	ance	Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
equency, İnjurie	Strategy Import	Power Plant	0.0000	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0000	0.0000	0.0000	0.0000	0.0541	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ı - Foreign Flag,	7	Drills	0.000	0.0058	0.0000	0.000	0.0000	0.0000	0.0000	0.0041	0.0000	0.0000	0.0000	0.0000	0.1622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-Based Ranking		Documents	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000
able A.4.7 Risk		Steering	0.0000	0.0194	0.0000	0.0000	0.0000	0.000	0.000	0.0158	0.0000	0.0000	0.0000	0.0000	0.4324	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T		Cargo/Poll.	0.0000	0.0252	0.000	0.000	0.000	0.000	0.000	0.0091	0.0000	0.000	0.000	0.000	0.3784	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Service	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER
	Bin	MSO	LKC	MOB	MOB	MOB	MOR	MOR	MOR	NEW	NEW	NEW	PAT	PAT	PAT	RCD	PCD	PCD	PLA	PLA	PLA
		District	•	•	•	•	8	•	•	∞	80	e c	ec	6 C	ec.	æ	8 0	80	80	œ	80

		Other	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Lifesaving	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
		Hull	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.0000
	ance	Fire Prevention	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
equency, Injuries	Strategy Import	Power Plant	0.0000	00000	00000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliery Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
s - Foreign Flag,	7	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0172	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000
-Based Ranking		Documents	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000
Table A.4.7 Risk-		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0172	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
L		Cargo/Poll.	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER															
	Bin	MSO	BUF	BUF	BUF	СНІ	СНІ	СНІ	CLE	CLE	CLE	DET	DET	DET	DUL	DUL	DUL	MAS	MAS	MAS	MIL
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

		Other	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	0.000
		Lifesaving	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000
		Hull	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0000
	ance	Fire Prevention	0.0000	0.0000	0.0000	0.0000	00000	00000	00000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
equency, Injuries	Strategy Import	Power Plant	0.0000	0.0000	0.0000	0.0000	00000	00000	00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	0.000
Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	Level III Intervention Strategy Importance	Auxiliary Sys.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
s - Foreign Flag,	J	Drills	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0000	0.0000	0.0074	0.0000
k-Based Ranking		Documents	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Table A.4.7 Risl		Steering	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0440	0.0000	0.0000	0.0259	0.000
1		Cargo/Poll.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0220	0.0000	0.0000	0.0222	0.0000
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER															
	Bin	MSO	MIL	MIL	SIM	SIM	SIM	SSM	SSM	SSM	STB	STB	STB	TOL	TOL	TOL	CON	CON	CON	207	LOS
		District	6	6	ó	6	6	6	6	0	6	6	6	6	6	6	11	=	=	=	=

				Table A.4.7 Ri	isk-Based Ranking	gs - Foreign Flas	Table A.4.7 Risk-Based Rankings - Foreign Flac, MSO Camely Frances 1-1.					
	Bin						T Casually L	requency, injuries				
District	MSO	Certifica	9				Level III Intervention Strategy Importance	an Strategy Import	Ance			
		agrance	Cargo/Foll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire	Hull	Lifenaving	Other
=	LOS	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0000	0000		
	SBC	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0000	0000	0000	00000	0.0000	0.0000
=	SBC	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0000	0.000	0.0000	0.0000	0.000
=	SBC	TANKER	0.0000	0.0000	0.0000	0.0000	0000	0	0.000	0.0000	0.0000	0.0000
Ξ	SDC	FREIGHTER	0.0000	0.0000	0.0000	0000		00000	0.000	0.0000	0.0000	0.0000
=	SDC	PASSENGER	0.000	0.0000	0.0000	0000	00000	0.000	0.0000	0.0000	0.0000	0.0000
Ξ	SDC	TANKER	0.000	0.0000	0.000	0000	0,000	0.000	0.0000	0.0000	0.0000	0.0000
	SFC	FREIGHTER	0.0000	0.000	0000	0000	00000	0.000	0.0000	00000	0.0000	0.0000
11	SFC	PASSENGED	900		O C	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
	CEC	TANKER	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
2	215	IANNEK	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
2 2	OKA OB	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
2 2	OKA G	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000
2 :	GRA	IANKER	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000
51	Ž,	FREIGHTER	0.0116	0.0087	0.0000	0.0029	0.0000	0.0022	0.0007	0.0007	0.000	0.000
6	POR	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.00
13	POR	TANKER	0.0426	0.0000	0.0000	0.0213	0.0000	0.0000	0.0000	0.0000	0.00	
13	SEA	FREIGHTER	0.0123	0.0074	0.000	0.0012	0.0000	0.0000	0.0012	0.0000	0.000	000
+	SEA	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	
13	SEA	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

			T	able A.4.7 Risk	-Based Ranking	s - Foreign Flag.	Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	equency, Injuries				
	Bin					1	Level III Intervention Strategy Importance	Strategy Imports	Ince			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
14	ASO	FREIGHTER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	00000	00000	00000	0.0000
14	ASO	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.000	00000	0.000	0.0000	0.0000
14	ASO	TANKER	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000
14	GUA	FREIGHTER	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.000
14	GUA	PASSENGER	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.0000	0.000
14	GUA	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
14	HON	FREIGHTER	0.0000	00000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.000
14	HON	PASSENGER	5.0526	3.7895	0.0000	26.5263	0.0000	0.0000	0.000	0.0000	0.000	0.000
14	HON	TANKER	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000
14	ANC	FREIGHTER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.000	0.000
14	ANC	PASSENGER	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.0000	0.0000	0.000
17	ANC	TANKER	0.000	0.0000	0.0000	0.000	0000:0	0.000	0.0000	0.0000	0.000	0.0000
17	DHA	FREIGHTER	0.000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.0000	0.000	0.000
17	DHA	PASSENGER	0.000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
17	DHA	TANKER	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000	0.0000	0.000
17	JUN	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.000
17	JUN	PASSENGER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.000	0.000	0.000
11	JUN	TANKER	0.0000	0.0000	0.0000	0.3333	0.0000	00000	0.0000	0.0000	0.000	0.000
17	KEN	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

			T	able A.4.7 Risk	-Based Rankings	1 - Foreign Flag,	Table A.4.7 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Injuries	quency, Injuries				
	Bin					7	Level III Intervention Strategy Importance	Strategy Imports	ınce			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
17	KEN	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	KEN	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
17	KET	FREIGHTER	0.0000	0.0000	000000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000
11	KET	PASSENGER	0.000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
17	KET	TANKER	0.000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.000	0.0000	0.0000
17	KOD	FREIGHTER	0.000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	КОБ	PASSENGER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.0000
17	KOD	TANKER	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
17	SIT	FREIGHTER	0.0000	0.0000	00000	0.0000	0.0000	0.000	0.0000	0.0000	0.000	0.000
17	SIT	PASSENGER	0.0000	0.0000	00000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.0000
11	SIT	TANKER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
17	VAL	FREIGHTER	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.000
71	VAL	PASSENGER	0.000	0.0000	00000	0.0000	0.0000	0.000	0.000	0.0000	0.0000	0.0000
11	VAL	TANKER	0.0000	0.0000	0.0000	000000 .	0.0000	0.0000	0.0000	0.000	0.0000	0.000

Table A.4.8 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage

		Other	\$7,608	8	\$	8	93	8	\$827	S	8	8	8	\$0	S	20	0\$	0\$	\$0
		Lifesaving	\$0	\$	%	S,	0\$	S	0\$	0\$	0\$	0\$	8	0\$	0\$	\$0	0\$	\$0	0\$
		Hall	\$15,216	\$0	\$0	80	\$0	0\$	\$827	8	80	80	\$0	\$0	\$238	0\$	0\$	0\$	80
age	ce	Fire Prevention	\$0	80	\$0	\$0	\$	\$0	\$2,480	0\$	\$0	\$0	0\$	\$0	\$0	\$0	\$0	0\$	\$0
Table A.4.8 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	Level III Intervention Strategy Importance	Power Plant	\$0	\$0	\$0	\$0	0\$	\$0	\$1,653	\$0	\$1,103	\$0	80	\$0	0\$	0\$	0\$	0\$	80
asualty Frequenc	III Intervention	Auxiliary Sys.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$	\$0	80	80	\$0	\$0	\$0	\$0
ign Flag, MSO, (Leve	Drills	\$0	\$0	\$0	\$1	\$0	\$0	\$1,653	0\$	\$368	0\$	0\$	0\$	\$238	0\$	\$0	0\$	\$0
Rankings - Fore		Documents	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$	0\$	80	0\$	0\$	0\$	0\$	0\$	0\$
1.4.8 Risk-Based		Steering	\$60,864	80	\$0	83	80	\$7,059	\$13,225	0\$	\$3,309	\$6,000	0\$	\$1,283	\$1,430	0\$	0\$	0\$	80
Table /		Cargo/Poll.	\$15,216	o s	0 \$	\$2	0\$	\$3,529	\$17,357	\$0	\$7,353	\$2,000	0\$	\$6,415	\$953	0\$	S	0\$	\$0
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	BOS	BOS	BOS	rıs	TIS	LIS	NYC	NYC	NYC	POM	POM	POM	PRO	PRO	PRO	ALL MSOs	ALL MSO8
		District	-	_	-	-	-	-	-			-	-		-	-		2	2

		Table	Table A.4.8 Risk-Based		Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	Casualty Frequen	icy, Property Dan	nage			
1					Leve	il III Intervention	Level III Intervention Strategy Importance	nce			
	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
ALL MSOs	TANKER	0\$	\$0	\$0	0\$	\$0	\$0	0\$	\$0	\$	\$0
	FREIGHTER	126'8\$	\$13,456	0\$	\$2,243	\$0	\$1,121	\$0	\$1,121	\$0	\$
	PASSENGER	o ş	0\$	0\$	0\$	\$0	\$0	\$0	\$0	\$0	\$0
	TANKER	\$	£\$	0\$	IS	\$0	\$0	\$0	\$0	\$0	0\$
	FREIGHTER	\$641	\$641	0\$	201\$	\$0	\$53	\$0	\$53	\$0	\$53
	PASSENGER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	0\$	\$0
	TANKER	0\$	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	S
	FREIGHTER	\$21,899	\$17,793	0\$	\$1,369	\$0	\$0	0\$	\$1,369	\$0	\$
	PASSENGER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	\$	8
	TANKER	\$7,447	\$2,031	0\$	\$1,354	\$0	\$0	\$0	\$0	80	\$1,354
WNC	FREIGHTER	\$1,263	\$947	0\$	916\$	\$0	\$316	\$0	\$0	\$0	\$316
WNC	PASSENGER	20	0\$	0\$	0\$	\$0	\$0	\$0	\$0	\$0	0,
WNC	TANKER	\$21,429	\$57,143	0\$	\$7,143	\$0	\$0	\$0	\$0	S	S
	FREIGHTER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	8	\$0
	PASSENGER	0\$	80	0\$	0\$	\$0	\$0	\$0	\$0	\$	\$0
	TANKER	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$0	8	\$0
	FREIGHTER	\$3,836	\$639	0\$	0\$	\$0	\$0	\$0	\$639	\$0	\$639
	PASSENGER	0\$	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$0	80
	TANKER	0\$	0\$	0\$	0\$	%	0\$	80	\$0	\$0	\$0

			Table A	Table A.4.8 Risk-Based Ra	l Rankings - Fore	ign Flag, MSO, (Casualty Frequen	ankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	age			
	.E.					Leve	I III Intervention	Level III Intervention Strategy Importance	ice			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifenving	Other
7	MIA	FREIGHTER	127,65\$	\$23,325	0\$	\$1,458	\$0	\$0	0\$	\$7,289	\$0	\$1,458
,	MIA	PASSENGER	\$4,000	S.	0\$	\$2,000	0\$	0\$	\$667	\$0	\$0	8
,	MIA	TANKER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	\$0	\$0	\$
,	PIC PIC	FREIGHTER	0\$	0\$	\$0	0\$	\$0	0\$	0\$	\$0	\$0	\$
7	PTC	PASSENGER	0\$	0\$	0\$	0\$	\$0	80	0\$	8	0\$	ន
7	M.C	TANKER	80	0\$	0\$	0\$	\$0	0\$	0\$	\$0	\$0	98
, ,	VAS	FREIGHTER	\$697	\$369	0\$	0\$	0\$	\$123	\$41	\$0	\$0	2
-	74.9	PASSENGER	0\$	0\$	0,5	0\$	0\$	0\$	\$0	\$0	\$0	8
	74.5	TANKED	OS.	\$11.538	0\$	0\$	0\$	0\$.0\$	\$0	0\$	8
	100	CBEIGUTED	824 148	\$37.904	0\$	0\$	\$0	0\$	\$14,2\$	\$0	80	8
, ,	TIE TIE	PASSENGED	0523	\$500	\$0	\$0	\$0	\$250	\$250	\$0	80	S.
	are are	TANKED	\$707	\$326	0\$	80	80	0\$	0\$	\$54	9	Ş
-	ort.	EDEIGHTER	0\$	0\$	\$0	\$0	80	80	\$0	\$0	S	93
, -	STC	PASSENGER	0\$	\$0	\$0	\$0	0\$	\$0	\$0	0,5	%	\$0
	STC	TANKER	0\$	80	\$0	0\$	0\$	\$0	\$0	0\$	98	\$0
	E E	FREIGHTER	0\$	S	0\$	80	0\$	\$0	\$0	0\$	0\$	\$0
,	į.	PASSENGER	0\$	0\$	0\$	80	\$0	\$0	\$0	\$0	0\$	0\$
	E E	TANKER	0\$	S _O	\$	0\$	0\$	80	80	%	0\$	\$0
,	TAM	FREIGHTER	699\$	\$426	oş	\$61	0 \$	\$0	\$0	\$0	0\$	\$0
`	1 TUM	1										

1 1		Table	Table A.4.8 Risk-Based		cign Flag, MSO,	Casualty Frequer	Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	nage			
Bin					lev.	el III Intervention	Level III Intervention Strategy Importance	nce			
MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
TAM	PASSENGER	0\$	\$0	\$0	0\$	\$0	0\$	0\$	\$0	0\$	\$0
TAM	TANKER	\$82	\$55	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$
BAT	FREIGHTER	\$732	\$1,025	\$0	\$146	0\$	\$293	0\$	0\$	0\$	\$146
BAT	PASSENGER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$
BAT	TANKER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	0\$
BRN	FREIGHTER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	\$0	0\$	\$0
BRN	PASSENGER	0\$	0\$	80	0\$	0\$	0\$	\$0	\$0	0\$	\$
BRN	TANKER	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	0\$	\$
COR	FREIGHTER	\$14,526	\$13,205	0\$	\$1,321	0\$	0\$	\$0	\$0	\$0	9
COR	PASSENGER	80	0\$	0\$	0\$	0\$	0\$	80	\$0	\$0	S.
COR	TANKER	\$10,205	\$9,071	os	0\$	80	0\$	\$0	\$0	\$0	\$1,134
GAL	FREIGHTER	\$4,054	\$11,350	0\$	0\$	0\$	0\$	° 0\$	\$0	\$0	0\$
GAL	PASSENGER	0\$	0\$	0\$	0\$	\$0	0\$	\$0	\$0	\$0	\$0
GAL	TANKER	\$6,726	\$8,072	0\$	\$1,345	\$0	\$673	\$1,345	\$673	\$0	0\$
ноп	FREIGHTER	\$39,792	\$48,082	0\$	\$4,974	0\$	\$3,316	\$0	\$3,316	\$0	\$1,658
ноп	 PASSENGER	0\$	0\$	o s	0\$	\$0	\$0	\$0	\$0	\$0	\$0
ноп	TANKER	0\$	80	0\$	\$0	\$0	\$0	\$0	\$0	\$0	\$
LKC	FREIGHTER	\$3,417	\$11,958	80	\$0	0\$	\$1,708	\$0	\$0	\$0	\$1,708
LKC	PASSENGER	0\$	80	0\$	0 \$	\$0	\$0	\$0	\$0	\$0	\$0
										•	

			Table .	A.4.8 Risk-Base	d Rankings - For	ign Flag, MSO,	Casualty Frequen	Table A.4.8 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	age			
	Bin					Leve	I III Intervention	Level III Intervention Strategy Importance	ice			
District	MSO	Service	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
ec	LKC	TANKER	0,5	0\$	0\$	0\$	0\$	\$0	\$0	0\$	\$0	80
sc	MOB	FREIGHTER	\$271	\$209	0\$	\$63	0\$	\$21	\$0	\$42	\$0	\$21
sc	MOB	PASSENGER	oş.	0\$	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$
•	MOB	TANKER	\$13,143	\$13,143	0\$	\$6,571	0\$	0\$	0\$	\$0	\$0	\$
•	MOR	FREIGHTER	0\$	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$	S
•	MOR	PASSENGER	0\$	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$0	8
•	MOR	TANKER	\$96	\$48	0\$	0\$	0\$	80	548	\$0	%	\$
•	NEW	FREIGHTER	\$12,681	\$21,904	0\$	\$5,764	0\$	\$6,917	0\$	80	\$	\$3,458
•	NEW	PASSENGER	0\$	0\$	0\$	0\$	0\$	\$0	0\$	\$0	\$0	æ
•	NEW	TANKER	\$22,208	\$22,208	0\$	\$4,935	0\$	0\$	\$7,403	\$2,468	\$0	\$4,935
o ec	PAT	FREIGHTER	\$1,937	\$430	0\$	80	0\$	\$0	\$0	0\$	\$0	\$215
• •	PAT	PASSENGER	0\$	\$0	\$0	\$0	0\$	0\$	\$0	\$0	0\$	0\$
•	PAT	TANKER	\$12,320	\$14,080	0\$	\$5,280	80	\$1,760	\$0	\$3,520	%	\$1,760
•	SCD DCD	FREIGHTER	\$0	80	0\$	\$0	\$0	\$0	\$0	\$0	0\$	OS.
•	2	PASSENGER	\$0	0\$	\$0	0\$	\$0	\$0	\$0	\$0	\$	8
•	202	TANKER	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$0	\$	05
•	PLA	FREIGHTER	\$0	\$0	0\$	0\$	\$0	\$0	\$0	80	\$0	\$0
~	PLA	PASSENGER	\$0	S	\$0	0\$	\$0	\$0	\$0	80	0\$	So
•	PLA	TANKER	80	0\$	0\$	80	\$0	\$0	\$0	\$0	0\$	S

		Other	\$0	\$0	\$0	\$0	\$0	S	O\$	\$0	\$0	\$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Lifesaving	\$0	\$0	\$0	\$0	\$0	\$0	0\$	80	\$0	è	\$0	0\$	0\$	S,	0\$	0\$	\$0	8	\$0
		Hull	\$1,000	\$0	0\$	\$0	\$0	\$0	\$0	\$0	80	\$0	\$0	\$0	\$4,295	0\$	80	0\$	\$0	\$0	\$0
nage	nce	Fire Prevention	\$0	\$0	\$0	\$0	\$0	\$0	80	0\$	0\$	0\$	\$0	0\$	\$4,295	\$0	\$0	\$0	\$0	0\$	\$0
Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	Level III Intervention Strategy Importance	Power Plant	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$	0\$	80	0\$	0\$	\$0	\$0	0\$	\$0	0\$	\$0	\$
Casualty Frequen	l III Intervention	Auxiliary Sys.	0\$	\$0	\$0	\$0	\$0	\$0	0\$	0\$	0\$	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$
eign Flag, MSO,	Leve	Drills	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	0\$	\$0	80	0\$	\$12,886	\$0	\$0	\$0	80	\$0	\$0
		Documents	0\$	\$0	0\$	0\$	80	80	0\$	0\$	0\$	0\$	0\$	80	\$0	\$0	\$0	0\$	\$0	\$0	0\$
Table A.4.8 Risk-Based		Steering	\$1,000	\$0	0\$	0\$	\$0	0\$	0\$	80	\$50,000	0\$	0\$	\$0	\$30,067	80	80	80	\$0	\$0	\$5,363
Table		Cargo/Poll.	0\$	\$0	\$0	\$0	\$0	\$0	80	0\$	0\$	0\$	0\$	80	\$21,477	0\$	80	0\$	\$0	0\$	0\$
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER
	Bin	MSO	BUF	BUF	BUF	СНІ	СНІ	СНІ	CLE	CLE	כרב	DET	DET	DET	DUL	DUL	DOL	MAS	MAS	MAS	MIL
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

	1				7			 1	- 1		1	-	1	1				7	—		-
		Other	0\$	\$	\$0	\$0	\$0	\$0	8	0\$	0\$	\$0	S	S	8	\$	8	\$0	S	\$8,850	0\$
		Lifesaving	0\$	0\$	80	\$0	\$0	\$0	\$0	.; Q	0\$	\$0	8	0\$	80	\$0	0\$	80	8	\$	0\$
		Hull	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0\$	8	\$8,694	0\$	0\$	\$0	\$0	\$0	\$4,425	S
288	Ķe	Fire Prevention	0\$	\$0	\$0	0\$	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$8,694	0\$	80	\$0	80	\$0	\$0	S.
ey, Property Dam	Level III Intervention Strategy Importance	Power Plant	\$0	\$0	\$0	\$0	\$0	\$0	80	\$0	\$0	\$0	\$0	\$0	\$0	20	\$0	\$0	\$0	\$8,850	\$0
Casualty Frequenc	III Intervention	Auxiliary Sys.	\$0	\$0	\$0	\$0	80	\$0	0\$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Table A.4.8 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	Leve	Drills	\$0	80	\$0	\$0	80	80	\$0	80	\$0	\$0	\$0	80	\$0	\$0	\$0	80	80	\$17,701	0\$
1 Rankings - Fore		Documents	\$0	\$0	\$0	80	\$0	\$0	\$0	0\$	\$0	\$0	80	80	80	\$0	0\$	0\$	0\$	0\$	0\$
A.4.8 Risk-Based		Steering	\$0	80	\$0	\$0	0\$	\$0	0\$	80	\$0	80	0\$	\$86,943	80	0\$	0\$	80	\$0	\$61,953	0\$
Table /		Cargo/Poll.	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	0\$	\$17,389	0\$	0\$	0\$	0\$	o s	\$53,102	OS.
		Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER
	Bin	MSO	MIL	MIL	SIM	SIM	SIM	SSM	SSM	SSM	STB	STB	STB	TOL	TOL	TOL	CON	CON	CON	S07	SOT
		District	6	6	6	6	6	6	6	6	6	6	6	6	6	6	=		=	==	=

ncy, Property Damage	Strategy Importance	Power Plant Fire Hull Lifesaving Other Prevention	0\$ 0\$ 0\$ 0\$ 20	0\$ 0\$ 0\$ 0\$	os os os os	os os os os	05 05 05 05	OS OS OS OS OS	0\$ 0\$ 0\$ 0\$	\$587 \$587 \$08 \$0	0\$ 0\$ 0\$ 0\$	0\$ 0\$ 0\$ 0\$	0\$ 0\$ 0\$ 0\$	0\$ 0\$ 0\$ 0\$	0\$ 0\$ 0\$ 0\$	\$595 \$198 \$198 \$0 \$793	0\$ 0\$ 0\$ 0\$	0\$ 0\$ 0\$ 0\$	08 08 00 20 00 80	0\$ 0\$ 0\$ 0\$	
Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	Level III Intervention Strategy Importance	Auxiliary Power F	s os os	os os	os os	0\$ 0\$	os os	0\$ 0\$	0\$ 0\$	\$0	os os	os os	os os	0\$ 0\$	0\$ 0\$	80	0\$ 0\$	os os	0\$ 0	os os	
ssed Rankings - Foreign Flag, M		Documents Drills	\$0	80	0\$	\$0	\$0	80	80	\$0 \$1,174	80	0\$	\$0	0\$	80	\$0 \$793	\$0	so os	80 \$100	8 08	
Table A.4.8 Risk-Based		Cargo/Poll. Steering	\$696	os os	os os	os os	os os	os os	0\$ 0\$	\$8,217	os os	\$20,000	os os	0\$ 0\$	os os	\$3,174 \$2,380	os os	os os	866\$	0\$ 0\$	
	Bin	MSO Service	LOS TANKER	SBC FREIGHTER	SBC PASSENGER	SBC TANKER	SDC FREIGHTER	SDC PASSENGER	SDC TANKER	SFC FREIGHTER	SFC PASSENGER	SFC TANKER	GRA FREIGHTER	GRA PASSENGER	GRA TANKER	POR FREIGHTER	POR PASSENGER	POR TANKER	SEA FREIGHTER	SEA PASSENGER	
		District	11 L	S 11 S	S 11	S 11	S 11 S	IS 11 SI	IS II SI	IS 11 SI	IS 11	IS 11	13 G	13 6	13	13 PA	H 13 PC	13 R	13 E1	IS EI	

			Table	Table A.4.8 Risk-Based R	d Rankings - Fon	eign Flag, MSO,	Casualty Frequen	ankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	TA ge			
	Bin					Levi	el III Intervention	Level III Intervention Strategy Importance	nce			
District	MSO	Service	Cargo/Poil.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
14	ASO	FREIGHTER	\$0	\$0	0\$	0\$	\$0	0\$	\$0	\$0	0\$	0\$
14	ASO	PASSENGER	\$0	\$0	\$0	\$0	0\$	0\$	0\$	0\$	\$0	\$0
14	ASO	TANKER	\$0	\$0	\$0	\$0	0\$	0\$	0\$	0\$	80	\$0
71	GUA	FREIGHTER	\$0	\$0	0\$	\$0	0\$	0\$	0\$	0\$	\$0	\$0
7	GUA	PASSENGER	\$0	\$0	80	\$0	80	0\$	0\$	0\$	\$0	SS.
14	GUA	TANKER	\$0	\$0	80	\$0	\$0	0\$	\$448	0\$	\$0	\$0
4	HON	FREIGHTER	\$0	\$0	0\$	\$0	0\$	0\$	0\$	0\$	\$0	S
Bad Data	HON	PASSENGER	\$0	\$0	\$0	\$0	0\$	0\$	0\$	0\$	\$0	\$
14	HON	TANKER	\$5,778	\$1,444	80	80	\$0	0\$	\$2,889	0\$	\$0	\$1,444
17	ANC	FREIGHTER	\$8,333	\$0	\$0	80	\$0	\$0	0\$	\$8,333	\$0	\$0
17	ANC	PASSENGER	0\$	0\$	0\$	80	\$0	\$0	O\$	\$0	\$0	\$0
17	ANC	TANKER	0\$	0\$	0\$	80	\$0	\$0	0\$	\$0	\$0	\$0
17	DHA	FREIGHTER	80	80	0\$	80	\$0	\$0	\$0	0\$	\$0	\$0
17	DHA	PASSENGER	\$0	0\$	80	0\$	0\$	0\$	0\$	0\$	\$0	\$
17	DHA	TANKER	80	0\$	0\$	80	0\$	\$0	0\$	\$0	0\$	0\$
17	JUN	FREIGHTER	\$140	\$350	0\$	80	0\$	80	\$0	\$70	0\$	S
17	NOL	PASSENGER	\$0	0\$	\$0	0\$	\$0	0\$	\$0	\$0	80	\$
17	NOI	TANKER	80	0\$	\$0	0\$	\$0	\$0	\$0	0\$	0\$	8
17	KEN	FREIGHTER	\$0	80	\$0	\$0	\$0	08	80	\$0	\$0	\$0

Table A	<	Table A.4.8 Risk-Based		eign Flag, MSO,	Casualty Frequen	Rankings - Foreign Flag, MSO, Casualty Frequency, Property Damage	nge			
•				Leve	1 III Intervention	Level III Intervention Strategy Importance	nce			
· .	Cargo/Poll.	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
J	\$0	80	80	\$0	0\$	\$0	0\$	\$0	\$0	\$0
1	0\$	0\$	\$0	\$0	0\$	0\$	\$	\$0	\$0	\$
	0\$	\$0	80	\$0	\$0	0\$	\$0	\$0	0\$	\$0
	\$0	80	80	0\$	0\$	0\$	\$0	\$0	0\$	\$0
	0\$	\$0	\$0	\$0	\$0	0\$	\$0	\$0	0\$	\$0
	0\$	0\$	0\$	80	\$0	0\$	\$0	\$0	0\$	\$0
-	8	80	80	0\$	0\$	0\$	0\$	\$0	0\$	S
	20	\$0	80	0\$	0\$	80	\$0	\$0	\$0	S
	OS	80	80	0\$	\$0	0\$	8	0\$	0\$	\$
	0\$	0\$	0\$	0\$	8	0\$	8	0\$	0\$	\$0
l	8	80	0\$	\$0	\$0	0\$	0\$	0\$	S	8
	80	\$0	\$0	\$0	\$0	0\$	\$0	80	8	0\$
	\$0	80	0\$	\$0	80	0\$	\$0	0\$	0\$	0\$
	\$0	\$0	0\$	\$0	0\$	80	80	0\$	8	S

Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution

Г	T	ī	T _	Ι_	Ĺ	Ī	_				Ī							•	
		Other	0	°	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0
		Lifemaning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Hull	0	0	0	0	0	0	-	0	0	0	0	0	1	0	0	0	0
Ę	lance	Fire Prevention	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	Level III Intervention Strategy Importance	Power Plant	0	0	0	0	0	0	2	0	12	0	0	0	0	0	0	0	0
ISO, Casualty Fr	el III Interventio	Auxiliary Sys.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foreign Flag, M	Lev	Drills	0	0	0	0	0	0	2	0	4	0	0	0	1	0	0	0	0
Sased Rankings -		Documents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
de A.4.9 Risk-E		Steering	0	0	0	0	0	7	16	0	37	0	0	1869	4	0	9	0	0
Tab		Cargo/Poll	0	0	0	0	0	4	21	0	82	0	0	9344	3	0	19	0	0
		Service	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER												
	Bin	MSO	BOS	BOS	BOS	LIS	LIS	LIS	NYC	NYC	NYC	POM	POM	POM	PRO	PRO	PRO	ALL MSOs	ALL MSOs
	•	District	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	7

			Tal	Table A.4.9 Risk-	Based Rankings	- Foreign Flag, N	4SO, Casualty F.	Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution				
	Bin					2	vel III Interventic	Level III Intervention Strategy Importance	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
2	ALL MSOs	TANKER	0	0	0	0	0	0	0	0	0	0
\$	BAL	FREIGHTER	77	115	0	61	0	10	0	10	0	0
5	BAL	PASSENGER	0	0	0	0	0	0	0	0	0	0
\$	BAL	TANKER	33	24	0	\$	0	0	0	0	0	0
5	HMR	FREIGHTER	15	15	0	2	0	1	0	_	0	1
5	HMR	PASSENGER	0	0	0	0	0	0	0	0	0	0 .
5	HMR	TANKER	836	418	0	105	0	0	0	0	0	0
5	PHI	FREIGHTER	13	11	0	1	0	0	0	-	0	0
5	ІНа	PASSENGER	0	0	0	0	0	0	0	0	0	0
5	РНІ	TANKER	46	13	0	•	0	0	0	0	0	••
5	WNC	FREIGHTER	12	6	0	3	0	3	0	0	0	3
5	WNC	PASSENGER	0	0	0	0	0	0	0	0	0	0
5	WNC	TANKER	-	2	0	0	0	0	0	0	0	0
7	СНА	FREIGHTER	78	7	0	0	0	0	0	0	0	0
7	СНА	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	СНА	TANKER	0	0	0	0	0	0	0	0	0	0
7	JAC	FREIGHTER	3		0	0	0	0	0	1	0	1
7	JAC	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	JAC	TANKER	184	94	0	46	0	0	0	0	0	0

			Tab	le A.4.9 Risk-l	Based Rankings -	· Foreign Flag, N	fSO, Casualty Fr	Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	uc			
	Bin					,a]	el III Interventio	Level III Intervention Strategy Importance	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
7	MIA	FREIGHTER	8404	3279	0	205	0	0	0	1025	0	205
L	MIA	PASSENGER	116	0	0	85	0	0	61	0	0	0
L	MIA	TANKER	4	0	0	0	0	0	0	0	0	0
L	PTC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
7	PTC	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	PTC	TANKER	0	0	0	0	0	0	0	0	0	0
4	SAV	FREIGHTER	37	20	0	0	0	7	2	0	0	2
7	SAV	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	SAV	TANKER	0	23	0	0	0	0	0	0	0	0
4	SJP	FREIGHTER	3	2	0	0	0	0	0	0	0	0
4	SJP	PASSENGER	0	0	0	0	0	0	0	0	0	0
4	SJP	TANKER	213	86	0	0	0	0	0	16	0	0
4	src	FREIGHTER	0	0	0	0	0	0	0	0	0	0
4	STC	PASSENGER	0	0	0	0	0	0	0	0	0	0
4	STC	TANKER	0	0	0	0	0	0	0	0	0	0
7	STT	FREIGHTER	0	0	0	0	0	0	0	0	0	0
7	STT	PASSENGER	0	0	0	0	0	0	0	0	0	0
7	STT	TANKER	0	0	0	0	0	0	0	0	0	0
7	TAM	FREIGHTER	15	6	0	1	0	0	0	0	0	0

s, MSO, Casualty Frequency, Pollution Level III Intervention Strategy Importance	Fire Hull Lifesaving Other Prevention	0 0 0 0	0 0 0	6 0 0 0	0 0 0	0 0 0	0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 117	0 0 0	0 0 0	62 31 0 0	0 474 0 237	0 0 0	0 0 0		0 0 0 0	0 0
Power Plant 0 0 0 0 18 0 0		-				0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 31	0 474	0 0	0 0	0 0	•	
Auxiliary Sys.	0	0		6	0	0	0	0	0	3	0	0	0	0			0	0	0		
Drills															62	711	-				
	Documents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	٥	
	Steering	0	44	62	0	0	0	0	0	33	0	940	29	0	375	6989	0	1	1		
	Cargo/Poll	0	99	44	0	0	0	0	0	36	0	1057	10	0	312	2895	0	1	0		
	Service	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	410141	rassender
2	MSO	TAM	TAM	BAT	BAT	BAT	BRN	BRN	BRN	COR	COR	COR	GAL	GAL	GAL	ноп	ноп	ноп	LKC		TKC
	District	7	7	80	∞	6 0	90	ec	80	6 0	•	∞	œ	œ	∞	∞	•	œ	8		×

			Tat	le A.4.9 Risk-	Based Rankings	- Foreign Flag, N	ASO, Casualty Fi	Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	uo			
	Bin					į	vel III Interventio	Level III Intervention Strategy Importance	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
&	LKC	TANKER	0	0	0	0	0	0	0	0	0	0
&	MOB	FREIGHTER	43	33	0	10	0	3	0	7	0	3
80	МОВ	PASSENGER	0	0	0	0	0	0	0	0	0	0
88	MOB	TANKER	120	120	0	9	0	0	0	0	0	0
&	MOR	FREIGHTER	0	0	0	0	0	0	0	0	0	0
sc	MOR	PASSENGER	0	0	0	0	0	0	0	0	0	0
sc	MOR	TANKER	0	0	0	0	0	0	0	0	0	0
*	NEW	FREIGHTER	3	5	0	1	0	1	0	0	0	-
8	NEW	PASSENGER	0	0	0	0	0	0	0	0	0	0
ec	NEW	TANKER	29	67	0	\$1	0	0	22	7	0	15
80	PAT	FREIGHTER	32	7	0	0	0	0	0	0	0	*
80	PAT	PASSENGER	0	0	0	0	0	0	0	0	0	0
80	PAT	TANKER	695	651	0	244	0	18	0	163	0	81
8	PCD	FREIGHTER	0	0	0	0	0	0	0	0	0	0
80	PCD	PASSENGER	0	0	0	0	0	0	0	0	0	0
œ	PCD	TANKER	0	0	0	0	0	0	0	0	0	0
æ	PLA	FREIGHTER	0	0	0	0	0	0	0	0	0	0
8	PLA	PASSENGER	0	0	0	0	0	0	0	0	0	0
8	PLA	TANKER	0	0	0	0	0	0	0	⁻ 0	0	0

			Tat	vle A.4.9 Risk-	Based Rankings	- Foreign Flag, A	Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casually Frequency, Pollution	requency, Pollution	av.			
	Bin					Lei	Level III Intervention Strategy Importance	n Strategy Impor	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	BUF	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	BUF	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	BUF	TANKER	0	0	. 0	0	0	0	0	0	0	0
6	СНІ	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	СНІ	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	СНІ	TANKER	0	0	0	0	0	0	0	0	0	0
6	CLE	FREIGHTER	0	0	0	0	0	0	0	0	. 0	0
6	CLE	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	CLE	TANKER	0	0	0	0	0	0	0	0	0	0
6	DET	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	DET	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	DET	TANKER	0	0	0	0	0	0	0	0	0	0
6	DUL	FREIGHTER	\$	7	0	3	0	0	1	1	0	0
6	DUL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	DUL	TANKER	0	0	0	0	0	0	0	0	0	0
6	MAS	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	MAS	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	MAS	TANKER	0	0	0	0	0	0	0	0	0	0
6	MIL	FREIGHTER	0	0	0	0	0	0	0	0	0	0 .

			Tab	le A.4.9 Risk-	Based Rankings -	· Foreign Flag, A	ASO, Casualty Fi	Table A.4.9 Risk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	uc			
	Bin					ี ล	rel III Interventio	Level III Intervention Strategy Importance	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifesaving	Other
6	MIL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	MIL	TANKER	0	0	0	0	0	0	0	0	0	0
6	SIM	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	SIM	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	SIM	TANKER	0	0	0	0	0	0	0	0	0	0
6	SSM	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	SSM	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	SSM	TANKER	0	0	0	0	0	0	0	0	0	0
6	STB	FREIGHTER	0	0	0	0	0	0	0	0	0	0
6	STB	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	STB	TANKER	0	0	0	0	0	0	0	0	0	0
6	TOL	FREIGHTER	0	2	0	0	0	0	0	0	0	0
6	TOL	PASSENGER	0	0	0	0	0	0	0	0	0	0
6	TOL	TANKER	0	0	0	0	0	0	0	0	0	0
=	CON	FREIGHTER	141	288	0	72	0	0	0	0	0	0
11	CON	PASSENGER	0	0	0	0	0	0	0	0	0	0
11	CON	TANKER	0	0	0	0	0	0	0	0	0	0
11	1.00	FREIGHTER	7	6	0	2	0	-	0		0	-
11	1.00	PASSENGER	0	0	0	0	0	0	0	0	0	0

			i.	hle A 4 0 D:-1								
	Bin			NA C.T.O. AND	- based Kankings	1 - Foreign Flag,	Andrew Mark-Based Kankings - Foreign Flag, MSO, Casualty Frequency, Pollution	requency, Pollut	ion			
District	MSO	Service	1.0/0000			- 1	Level III Intervention Strategy Importance	on Strategy Impo	rtance			
			Cargo/Foll	Steering	Documents	Drills	Auxiliary	Power Plant	File	Hull	Lifesaving	Other
=	LOS	TANKER	3	9	0	6	1		Prevention		ì	
=	SBC	FREIGHTER	0	0	6				0	0	0	٥
=	SBC	PASSENGER	0	0			0	0	0	0	0	0
=	SBC	TANKER	0	6		0	0	0	0	0	0	0
=	SDC	FREIGHTER	0			0	0	0	0	0	0	0
=	SDC	PASSENGER	0			0	0	0	0	٥	0	0
=	SDC	TANKER	0	C		0	0	0	0	0	0	0
==	SFC	FREIGHTER	32) =	9 (٥	0	0	0	0	0	0
11	SFC	PASSENGER	c		0 ,	\$	0	2	2	2	0	0
11	SFC	TANKER	٩	,	0	0	0	0	0	0	0	0
13	GRA	FREIGHTER	0	1	0	0	0	0	0	0	0	0
13	GRA	PASSENGER			0	0	0	0	0	0	0	0
13	GRA	TANKER	, c		0 ,	0	0	0	0	0	0	0
13	POR	FREIGHTER	12	9 8	0 0	0	0	0	0	0	0	0
13	POR	PASSENGER	0	3 6		61	0	4	\$	8	0	19
13 P	POR	TANKER	2				0	0	0	0	0	0
13 S	SEA	FREIGHTER	91	2		-	0	0	0	0	0	0
13 S	SEA	PASSENGER	0	-	> 6	7	0	0	2	0	0	0
13 SI	SEA	TANKER	-	-	,	5 ,		0	0	0	0	0
			-	-	٥	0	0	0	0	-		

			Tat	Table A.4.9 Risk-	Based Rankings -	- Foreign Flag. N	1SO, Casualty Fr	Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	, n			
	Bin					Į	el III Interventio	Level III Intervention Strategy Importance	tance			
District	MSO	Service	Cargo/Poll	Steering	Documents	Drills	Auxiliary Sys.	Power Plant	Fire Prevention	Hull	Lifeaving	Other
14	ASO	FREIGHTER	0	0	0	0	0	0	0	0	0	0
41	ASO	PASSENGER	0	0	0	0	0	0	0	0	0	0
14	ASO	TANKER	0	0	0	0	0	0	0	0	0	0
14	GUA	FREIGHTER	5	0	0	0	0	0	0	0	0	0
14	GUA	PASSENGER	0	0	0	0	0	0	0	0	0	0
14	GUA	TANKER	0	0	0	0	0	0	0	C	0	0
14	HON	FREIGHTER	3	2	0	0	0	-	0	0	0	0
Bad Data	HON	PASSENGER	0	0	0	0	0	0	0	0	0	0
14	HON	TANKER	0	0	0	0	0	0	0	0	0	0
17	ANC	FREIGHTER	0	0	0	0	0	0	0	0	0	0
17	ANC	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	ANC	TANKER	0	0	0	0	0	0	0	0	0	0
11	DHA	FREIGHTER	0	0	0	0	0	0	0	0	0	٥
17	DHA	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	DHA	TANKER	٥	0	0	0	0	0	0	0	0	•
17	JUN	FREIGHTER	-	2	.0	0	0	0	0	0	0	0
17	JUN	PASSENGER	0	0	0	0	0	0	0	0	0	0
17	JUN	TANKER	0	0	0	0	0	0	0	0	0	0
17	KEN	FREIGHTER	0	0	0	0	0	0	0	0	0	0
				!								

				1		0	6	-	0	0	6	<u>, </u>	0	0	T o	T.	0		0	T.	7
				Other																	i
				Lifesaving		0	-			0	0		0	0	0	0	0	•	0	0	
				Hull		0	0		•	0	0	·	٦	0	0	0	0	0	0	0	
	e.	Ance		E .	Prevention	0	0	·		0	0		,	0	0	0	0	0	0	0	
	equency, Pollutic	n Strategy Import		Power Plant		0	0		,	0	0	c		0	0	0	0	0	0	0	
	Agus A.4.3 Kisk-Based Rankings - Foreign Flag, MSO, Casualty Frequency, Pollution	Level III Intervention Strategy Importance		Auxiliary		0	0	0			0	0			0	0	0	0	0	0	,
	Foreign Flag, N	Lev	Daille The state of the state o	Ē		>	0	0	•	>	0	0			0	0	0	0	0	0	
	Based Rankings		Documents		c	,	٥	0	C	,	٥	0	c	,		0			0	3	
11. 4 4 0 21 1	ole A.4.9 Kisk-		Steering	,	0			0	0		 	0	•) (0 (0 0		
-1			Cargo/Poll	·	0	6			0	c		3	0	6		> 6	, ,		0		•
			Service		PASSENGER	TANKER	FPEIGUTED	, ACIOILLEA	PASSENGER	TANKER	FREIGHTED	1	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANKER	FREIGHTER	PASSENGER	TANVED	
	Bin	0974	MSO		KEN	KEN	KET		KET	KET	KOD		KOD	KOD	SIT	SIT	SIT	VAL	VAL	VAL	
		District	Zisti Et		17	17	11		12	17	17	╆	=	17	17	17	17	17 1	V 71	17 V	

Appendix B MSMS SYBASE Query Input And Output Files

B.1 Aggregation Of Data For U.S. Flag Deep Draft Vessels

The logic of the binning process illustrated in Figure 3.1 is:

Maritime Casualty - All CIRT records are queried for the MCCASE number, which is matched against the MCCASE field in the Casualty Vessel Involved Record Table (CIVT) to identify those CIRT records that involve vessels. This allows for each specific vessel involved in a particular casualty report to be identified and counted as a "vessel casualty". All non-vessel records are filtered from further queries at this point.

<u>Vessel Flag</u> - After the CIRT records have been filtered based on vessel involvement they are then filter for flag against the CIVT and VIDT tables using the VKEY field.

<u>Casualty Consequence</u> - Four characteristics of maritime vessel casualties have been defined for the purpose of aggregating data. The first characteristic is "<u>Vessel</u>", meaning that the MCCASE number in a particular CIRT record has been matched to one or more MCCASE numbers in CIVT, as discussed above under the Maritime Casualty attribute. This attribute identifies each CIVT record as an individual vessel casualty. Thus, if more than one vessel is involved in a specific casualty logged in a particular CIVT record then each such vessel is counted as an individual vessel casualty. This characteristic leads to the calculation of high level casualty frequency rates that incorporated all vessel casualties regardless of the nature of the consequence. All of the other characteristics represent subsets of the set of all vessel casualties.

The next characteristic is "Pollution", meaning that a vessel casualty occurred that resulted in a pollution incident. This characteristic leads to the calculation of vessel casualty rates based only on vessel casualties that result in pollution incidents. This information is collected by matching the MCCASE number in each CIRT casualty report with the MCCASE numbers in the CIVT and the Casualty Pollution Details Record Table (CPDT) to identify pollution events that correspond to each CIRT casualty report.

The next characteristic is "<u>Death</u>", meaning at least one death occurred as the result of a vessel casualty. This characteristic leads to the calculation of casualty frequencies based on fatalities only, yielding an estimate of "Deaths/Inspection" frequency. This information is collected by matching MCCASE in each CIRT record to the CIRT and Casualty Personnel Casualty Record Table (CPCT) to count the number of Deaths resulting from the vessel casualties.

The last characteristic is "<u>Injury</u>", meaning that a vessel casualty resulted in at least injury. This characteristic leads to the calculation of casualty frequencies based on non-fatal injuries, yielding an estimate of "injuries/Inspection" frequency. This information is collected in the same way as for Deaths. In the event that a particular casualty

involves both Deaths and injuries, the casualty is binned under both the "death" and "injury" characteristic.

<u>Vessel Service</u> - The data can be aggregated so that casualty frequency rates are calculated based on the type of service of the vessel.

Aggregation Of Data For Districts and MSOs

Figures 3.2 and 3.3 represent similar but more detailed aggregation of casualty data. Figure 3.2 represents the aggregation of data by the District that last inspected a vessel before the occurrence of a casualty. Figure 3.3 represents the aggregation of data by the MSO that last inspected a vessel before the occurrence of a casualty. Each vessel casualty recorded in CIRT was "assigned" or binned to the last District and MSO where it received an inspection. The inspecting District and MSO were identified by comparing the casualty date in each CIRT vessel casualty report to the inspection dates for the relevant vessel in the Inspection Report Identification Table (IRIT). In this way, casualty counts were calculated for each District and MSO based on the location of the last inspection. Information in CIRT and IRIT was linked using VILT, VINTAB, the Port Identification Table (PORTS), and VIDT.

The total number of vessel inspections conducted by each District and MSO was calculated by counting the number of IRIT records logged by each District and MSO. The MSO for each IRIT record was identified directly using the UNIT element name in each IRIT record. The District for each IRIT record was identified by matching the UNIT element name to its appropriate District in PORTS. No distinction was made between the different types of inspections performed. IRIT contains indicator fields for each type of inspection that might be performed by an MSO (e.g., Initial Inspection, Certificate Of Inspection (COI), Annual Reinspection, Hull Inspection). As stated in the introduction of this report, the MSMS database is not designed to link casualties to particular inspection activities. Additionally, a particular IRIT record could have more than one indicator marked. This would indicate a situation in which a vessel underwent more than one inspection at the same time. Although some inspections are clearly unique in terms of the scope of inspection (e.g., Hull Inspection), other inspections (such as the COI and Annual Reinspection) may be designed to consider similar risks, even if at different levels of scrutiny. Therefore, the casualty frequency estimates here present a high level of data aggregation with respect to the type of inspection activities performed. A more detailed aggregation of vessel casualty data might be possible if casualty casual data in the Casualty Event Record Table (CEVT) could be used to reliably identify the specific USCG inspections that are designed to cover the types of events attributed to each vessel casualty. Based on discussions with USCG Marine Planning personnel at the May 13, 1994 project review meeting, future queries for U.S. flag inspections will focus only on the COI, the Annual Reinspection, and the Hull inspection.

All data queries were restricted to the MSMS database for the time period of January 1991 through October, 1993. Data consistency between the 1980's and the 1990's in IRIT was a

concern. For the time period of 1983 to 1990, approximately 114,000 IRIT records were logged. For the time period 1991 through October 1993, approximately 166,000 records were logged. This represents an average of only about 14,000 records annually during the 1980's versus over 40,000 records annually during the 1990's. The focus of this assessment was therefore limited to the 1991 through 1993 time period. This is consistent with the advent of the use of MINMOD as the repository of maritime casualty data.

B.2 INFORMIX Query Files For The Risk-Based Ranking Analysis

This appendix contains the SQL programs used to query the MSMS database and construct the data sets used in the econometric analysis. The programs are written in INFORMIX (ISQL) and are easily translated into other SQL-based database software that are designed to manage relational databases such as SYBASE. Minor syntax modifications may be needed before these programs can be implemented from SQL-based software other than INFORMIX.

B.2.1 INFORMIX Preliminary Queries For Setting Up INFORMIX Tables From The MSMS MINMOD Database

DATABASE msms

MAIN

```
DEFINE counter INT,

p_brst RECORD LIKE brst.*

DECLARE brst_cursor CURSOR FOR

SELECT * FROM brst

FOR UPDATE

LET counter = 0
```

FOREACH brst_cursor INTO p_brst.*

```
LET p_brst.d2b1 = 0
LET p_brst.d2b2 = 0
LET p_brst.d2b3 = 0
LET p_brst.d31 = 0
LET p_brst.d32 = 0
LET p_brst.d33 = 0
LET p_brst.d34 = 0
LET p_brst.d35 = 0
LET p_brst.d36 = 0
LET p_brst.d37 = 0
LET p_brst.d38 = 0
LET p_brst.d39 = 0
IF p_brst.activity_typ = "POLL PREV" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
  LET p_brst.d2b3 = 1.0
```

```
LET p_brst.d31 = 1.0
END IF
IF p_brst.activity_typ = "NAV SAFETY" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d32 = 1.0
END IF
IF p_brst.activity_typ = "ANNUAL EXAMINATION" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
END IF
IF p_brst.activity_typ = "FIRE PROT" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d37 = 1.0
END IF
IF p_brst.activity_typ = "MARPOL REQ" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.2
 LET p_brst.d32 = 0.2
 LET p_brst.d33 = 0.2
 LET p_brst.d34 = 0.2
 LET p_brst.d37 = 0.2
END IF
IF p_brst.activity_typ = "LOADLINE" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d33 = 0.5
 LET p_brst.d38 = 0.5
END IF
IF p_brst.activity_typ = "MANNING" THEN
 LET p_brst.d2b1 = 1.0
```

```
LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d33 = 1.0
END IF
IF p_brst.activity_typ = "PASS FRGT" THEN
 LET p_brst.d2b1 = 1.0
END IF
IF p_brst.activity_typ = "CARGO VENT" THEN
 LET p_brst.d2b2 = 1.0
 LET p_brst.d31 = 1.0
END IF
IF p_brst.activity_typ = "CARGO PIPE" THEN
 LET p_brst.d2b2 = 1.0
 LET p_brst.d31 = 1.0
END IF
IF p_brst.activity_typ = "ANNUAL FREIGH" THEN
 LET p_brst.d2b1 = 1.0
END IF
IF p_brst.activity_typ = "DISCREPANCY FOLLOWUP" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.1667
 LET p_brst.d32 = 0.1667
 LET p_brst.d33 = 0.1667
 LET p_brst.d34 = 0.1667
 LET p_brst.d37 = 0.1667
 LET p_brst.d39 = 0.1667
END IF
IF p_brst.activity_typ = "DOCUMENT CHEC" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d33 = 1.0
END IF
IF p_brst.activity_typ = "MARPOL V" THEN
 LET p_brst.d2b1 = 1.0
```

```
LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.333
 LET p_brst.d32 = 0.333
 LET p_brst.d33 = 0.333
END IF
IF p_brst.activity_typ = "TANK VESS" THEN
 LET p_brst.d2b2 = 1.0
END IF
IF p_brst.activity_typ = "DISCREP FLWUP" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.1667
 LET p_brst.d32 = 0.1667
 LET p_brst.d33 = 0.1667
 LET p_brst.d34 = 0.1667
 LET p_brst.d37 = 0.1667
 LET p_brst.d39 = 0.1667
END IF
IF p_brst.activity_typ = "MARPOL GEN" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.3333
 LET p_brst.d32 = 0.3333
 LET p_brst.d33 = 0.3333
END IF
IF p_brst.activity_typ = "CREW LIC. CHK" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d33 = 1.0
END IF
IF p_brst.activity_typ = "WS SYS MAINTE" THEN
END IF
IF p_brst.activity_typ = "MON SHIP OIL" THEN
END IF
```

```
IF p_brst.activity_typ = "ANNUAL SHIP" THEN
END IF
IF p_brst.activity_typ = "SOL TRANS" THEN
END IF
IF p_brst.activity_typ = "MARPOL I" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.5
 LET p_brst.d33 = 0.5
END IF
IF p_brst.activity_typ = "IGS" THEN
 LET p_brst.d2b2 = 1.0
 LET p_brst.d31 = 1.0
END IF
IF p_brst.activity_typ = "CONTAIN INSP" THEN
END IF
IF p_brst.activity_typ = "PUMP ROOM" THEN
END IF
IF p_brst.activity_typ = "ANNUAL CONTAI" THEN
 LET p_brst.d2b1 = 1.0
END IF
IF p_brst.activity_typ = "MARPOL DIS" THEN
END IF
IF p_brst.activity_typ = "COW" THEN
 LET p_brst.d2b2 = 1.0
 LET p_brst.d31 = 1.0
END IF
IF p_brst.activity_typ = "MARPOL II" THEN
 LET p_brst.d2b1 = 1.0
 LET p_brst.d2b2 = 1.0
 LET p_brst.d2b3 = 1.0
 LET p_brst.d31 = 0.5
 LET p_brst.d33
                = 0.5
```

END IF

```
IF p_brst.activity_typ = "MARPOL EQU" THEN
  LET p_brst.d2b1 = 1.0
  LET p_brst.d2b2 = 1.0
  LET p_brst.d2b3 = 1.0
  LET p_brst.d31
                 = 0.5
  LET p_brst.d33 = 0.5
 END IF
 IF p_brst.activity_typ = "ANNUAL PASSEN" THEN
  LET p_brst.d33 = 1.0
 END IF
 IF p_brst.activity_typ = "ANNUAL FREIGH ON" THEN
  LET p_brst.d2b1 = 1.0
 END IF
 IF p_brst.activity_typ = "DISCREP FLWUP" OWUP" THEN
  LET p_brst.d2b1 = 1.0
  LET p_brst.d2b2 = 1.0
  LET p_brst.d2b3 = 1.0
  LET p_brst.d31 = 0.1667
  LET p_brst.d32 = 0.1667
  LET p_brst.d33 = 0.1667
  LET p_brst.d34 = 0.1667
  LET p_brst.d37
                 = 0.1667
  LET p_brst.d39
                 = 0.1667
 END IF
 UPDATE brst
  SET brst.* = p_brst.*
  WHERE CURRENT OF brst_cursor
 LET counter = counter + 1
 IF counter mod 1000 = 0 THEN
  DISPLAY counter, " rows have been updated in BRST"
 END IF
END FOREACH
```

MAIN

```
DEFINE counter INT,
    p_brst RECORD LIKE brst.*
DECLARE brst_cursor CURSOR FOR
 SELECT * FROM brst
 FOR UPDATE
 LET counter = 0
FOREACH brst_cursor INTO p_brst.*
 LET p_brst.d2a1 = 0
 LET p_brst.d2a2 = 0
 LET p_brst.d2a3 = 0
 IF p_brst.activity_typ = "DISCREPANCY FOLLOWUP" THEN
  LET p_brst.d2b1
                       = 1
  LET p_brst.d2b2
                       = 1
  LET p_brst.d2b3
                       = 1
  LET p_brst.d31 = 1
  LET p_brst.d32 = 1
  LET p_brst.d33 = 1
  LET p_brst.d34 = 1
  LET p_brst.d37 = 1
  LET p_brst.d39 = 1
 END IF
 UPDATE brst
  SET brst.* = p_brst.*
  WHERE CURRENT OF brst_cursor
 LET counter = counter + 1
 IF counter mod 1000 = 0 THEN
  DISPLAY counter, " rows have been updated in BRST"
 END IF
```

END FOREACH

MAIN

DEFINE counter INT, p_cevt RECORD LIKE cevt.*

DECLARE cevt_cursor CURSOR FOR SELECT * FROM cevt FOR UPDATE

LET counter = 0

END IF

FOREACH cevt_cursor INTO p_cevt.*

LET p_cevt.dtype = "0"

IF p_cevt.type = "POLLUTION" THEN LET p_cevt.dtype = "1" END IF IF p_cevt.type = "ALLISION" THEN LET p_cevt.dtype = "2" END IF IF p_cevt.type = "GROUNDING ACC" THEN LET p_cevt.dtype = "2" END IF IF p_cevt.type = "LOSS VES CNTRL" THEN LET p_cevt.dtype = "2" END IF IF p_cevt.type = "PERSONNEL CAS" THEN LET p_cevt.dtype = "4" END IF IF p_cevt.type = "LOSS ELEC POWER" THEN LET p_cevt.dtype = "6" END IF IF p_cevt.type = "FIRE" THEN LET p_cevt.dtype = "7" END IF IF p_cevt.type = "SINK" THEN LET p_cevt.dtype = "8" END IF IF p_cevt.type = "FLOODING" THEN LET p_cevt.dtype = "8"

IF p_cevt.type = "STRUCTURAL FAIL" THEN
LET p_cevt.dtype = "8"
END IF

LET p_cevt.counter = 1

UPDATE cevt
SET cevt.* = p_cevt.*
WHERE CURRENT OF cevt_cursor

LET counter = counter + 1

IF counter mod 1000 = 0 THEN
DISPLAY counter, " rows have been updated in CEVT"
END IF

END FOREACH

MAIN

DEFINE counter INT, p_cpct RECORD LIKE cpct.*

DECLARE cpct_cursor CURSOR FOR SELECT * FROM cpct FOR UPDATE

LET counter = 0

FOREACH cpct_cursor INTO p_cpct.*

LET p_cpct.ddead = 0 LET p_cpct.dinjury = 0

IF p_cpct.dead = "X" THEN

LET p_cpct.ddead = 1

END IF

IF p_cpct.injury = "X" THEN LET p_cpct.dinjury = 1 END IF

UPDATE cpct
SET cpct.* = p_cpct.*
WHERE CURRENT OF cpct_cursor

LET counter = counter + 1

IF counter mod 1000 = 0 THEN

DISPLAY counter, "rows have been updated in CPCT"

END IF

END FOREACH

MAIN

```
DEFINE counter INT,
     p_crst RECORD LIKE crst.*
DECLARE crst_cursor CURSOR FOR
 SELECT * FROM crst
 FOR UPDATE
 LET counter = 0
FOREACH crst_cursor INTO p_crst.*
     LET p_{crst.d2a1} = 0
     LET p_{crst.d2a2} = 0
     LET p_{crst.d2a3} = 0
     LET p_{crst.d31} = 0
     LET p_{crst.d32} = 0
    LET p_{crst.d33} = 0
    LET p_{crst.d34} = 0
    LET p_crst.d35 = 0
    LET p_{crst.d36} = 0
    LET p_{crst.d37} = 0
    LET p_{crst.d38} = 0
    LET p_{crst.d39} = 0
IF p_crst.inspect_typ = "ANNUAL EXAMINATION" THEN
END IF
IF p_crst.inspect_typ = "POLL PREV" THEN
  LET p_crst.d2a1 = 1.0
  LET p_{crst.d2a2} = 1.0
  LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "LOADLINE" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d2a3} = 1.0
     LET p_{crst.d38} = 1.0
END IF
```

```
IF p_crst.inspect_typ = "PASS FRGT" THEN
 END IF
 IF p_crst.inspect_typ = "NAV SAFETY" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d2a2} = 1.0
      LET p_{crst.d32} = 1.0
 END IF
 IF p_crst.inspect_typ = "REINSPECTION" THEN
      LET p_{crst.d2a2} = 1.0
      LET p_crst.d31 = 0.1111
      LET p_{crst.d32} = 0.1111
      LET p_crst.d33 = 0.1111
      LET p_crst.d34 = 0.1111
      LET p_crst.d35 = 0.1111
      LET p_crst.d36 = 0.1111
      LET p_crst.d37 = 0.1111
      LET p_crst.d38 = 0.1111
      LET p_crst.d39 = 0.1111
END IF
IF p_crst.inspect_typ = "MARPOL REQ" THEN
      LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "ADMIN" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d2a3} = 1.0
     LET p_{crst.d31} = 0.1111
     LET p_{crst.d32} = 0.1111
     LET p_crst.d33 = 0.1111
     LET p_crst.d34 = 0.1111
     LET p_crst.d35 = 0.1111
     LET p_crst.d36 = 0.1111
     LET p_{crst.d37} = 0.1111
     LET p_{crst.d38} = 0.1111
     LET p_crst.d39 = 0.1111
END IF
```

IF p_crst.inspect_typ = "CARGO VENT" THEN

```
LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d2a3} = 1.0
     LET p_crst.d31 = 1.0
     LET p_crst.d38 = 1.0
END IF
IF p_crst.inspect_typ = "MANNING" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_crst.d2a2 = 1.0
     LET p_{crst.d33} = 1.0
END IF
IF p_crst.inspect_typ = "CARGO PIPE" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_crst.d31 = 1.0
END IF
IF p_crst.inspect_typ = "FIRE PROT" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d37} = 1.0
END IF
IF p_crst.inspect_typ = "HULL EXAM" THEN
     LET p_{crst.d2a3} = 1.0
     LET p_{crst.d31} = 0.1111
     LET p_crst.d32 = 0.1111
     LET p_{crst.d33} = 0.1111
     LET p_crst.d34 = 0.1111
     LET p_crst.d35 = 0.1111
     LET p_crst.d36 = 0.1111
     LET p_crst.d37 = 0.1111
     LET p_crst.d38 = 0.1111
     LET p_{crst.d39} = 0.1111
END IF
IF p_crst.inspect_typ = "TANK VESS" THEN
END IF
IF p_crst.inspect_typ = "DISCREPANCY FOLLOWUP" THEN
END IF
```

```
IF p_crst.inspect_typ = "DD EXTEND" THEN
       LET p_{crst.d2a3} = 1.0
       LET p_{crst.d38} = 1.0
  END IF
  IF p_crst.inspect_typ = "COC" THEN
  END IF
 IF p_crst.inspect_typ = "CONTROL VERIF" THEN
 END IF
 IF p_crst.inspect_typ = "SOL TRANS" THEN
 END IF
 IF p_crst.inspect_typ = "DEFICIENCY CK" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d2a2} = 1.0
      LET p_{crst.d2a3} = 1.0
      LET p_{crst.d31} = 0.1111
      LET p_{crst.d32} = 0.1111
      LET p_crst.d33 = 0.1111
      LET p_{crst.d34} = 0.1111
      LET p_crst.d35 = 0.1111
      LET p_crst.d36 = 0.1111
      LET p_{crst.d37} = 0.1111
      LET p_{crst.d38} = 0.1111
      LET p_crst.d39 = 0.1111
END IF
IF p_crst.inspect_typ = "CERTIFICATION" THEN
     LET p_crst.d2a1 = 1.0
     LET p_{crst.d31} = 0.1111
     LET p_{crst.d32} = 0.1111
     LET p_crst.d33 = 0.1111
     LET p_crst.d34 = 0.1111
     LET p_{crst.d35} = 0.1111
     LET p_crst.d36 = 0.1111
     LET p_{crst.d37} = 0.1111
     LET p_{crst.d38} = 0.1111
     LET p_crst.d39 = 0.1111
END IF
IF p_crst.inspect_typ = "LIFERAFT SVC" THEN
     LET p_{crst.d2a1} = 1.0
```

```
LET p_{crst.d2a2} = 1.0
       LET p_{crst.d39} = 1.0
 END IF
 IF p_crst.inspect_typ = "IGS" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d2a2} = 1.0
      LET p_{crst.d31} = 1.0
 END IF
 IF p_crst.inspect_typ = "MARPOL EQU" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d2a2} = 1.0
      LET p_{crst.d31} = 1.0
 END IF
IF p_crst.inspect_typ = "MARPOLII SURV" THEN
      LET p_crst.d2a1 = 1.0
      LET p_{crst.d2a2} = 1.0
      LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "MARPOL" THEN
END IF
IF p_crst.inspect_typ = "MARPOL DIS" THEN
END IF
IF p_crst.inspect_typ = "DAMAGE SURVEY" THEN
     LET p_{crst.d2a3} = 1.0
     LET p_crst.d38 = 1.0
END IF
IF p_crst.inspect_typ = "INITIAL CERT" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 0
     LET p_{crst.d2a3} = 0
     LET p_{crst.d31} = 0.1111
     LET p_crst.d32 = 0.1111
     LET p_{crst.d33} = 0.1111
     LET p_crst.d34 = 0.1111
     LET p_crst.d35 = 0.1111
     LET p_{crst.d36} = 0.1111
    LET p_crst.d37 = 0.1111
```

```
LET p_{crst.d38} = 0.1111
     LET p_{crst.d39} = 0.1111
END IF
IF p_crst.inspect_typ = "L/S SVC OTHER" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_crst.d39 = 1.0
END IF
IF p_crst.inspect_typ = "MACHINERY" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_crst.d2a2 = 1.0
     LET p_{crst.d2a3} = 1.0
     LET p_crst.d31 = 0.2
     LET p_{crst.d32} = 0.2
     LET p_{crst.d35} = 0.2
     LET p_{crst.d36} = 0.2
     LET p_{crst.d37} = 0.2
END IF
IF p_crst.inspect_typ = "CONSTRUCTION" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_crst.d2a3 = 1.0
     LET p_crst.d38 = 1.0
END IF
IF p_crst.inspect_typ = "WELDER QUAL" THEN
END IF
IF p_crst.inspect_typ = "OVERSIGHT" THEN
     LET p_crst.d2a1 = 1.0
END IF
IF p_crst.inspect_typ = "MARPOLII TEST" THEN
     LET p_{crst.d2a2} = 1.0
     LET p_crst.d31 = 1.0
END IF
IF p_crst.inspect_typ = "ANNUAL" THEN
END IF
IF p_crst.inspect_typ = "PUMP ROOM" THEN
     LET p_{crst.d2a1} = 1.0
```

```
LET p_{crst.d2a2} = 1.0
        LET p_{crst.d2a3} = 1.0
       LET p_{crst.d31} = 0.3333
       LET p_{crst.d35} = 0.3333
       LET p_{crst.d38} = 0.3333
  END IF
  IF p_crst.inspect_typ = "CONSTRUCT O/S" THEN
       LET p_{crst.d2a1} = 1.0
       LET p_{crst.d38} = 1.0
  END IF
 IF p_crst.inspect_typ = "OP MAN REVIEW" THEN
       LET p_{crst.d2a1} = 1.0
      LET p_crst.d2a2 = 1.0
      LET p_crst.d31 = 1.0
 END IF
 IF p_crst.inspect_typ = "MARPOL II" THEN
 END IF
 IF p_crst.inspect_typ = "ANNUAL FREIGH" THEN
 END IF
IF p_crst.inspect_typ = "NLS SURVEY" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d2a2} = 1.0
END IF
IF p_crst.inspect_typ = "MARPOL V" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "INCL EXP" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d38} = 1.0
END IF
IF p_crst.inspect_typ = "LIFE JACKET" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_crst.d39 = 1.0
```

```
END IF
IF p_crst.inspect_typ = "MARPOL GEN" THEN
END IF
IF p_crst.inspect_typ = "REFLAGGING" THEN
     LET p_crst.d2a1 = 1.0
     LET p_crst.d31 = 0.1111
     LET p_crst.d32 = 0.1111
     LET p_{crst.d33} = 0.1111
     LET p_crst.d34 = 0.1111
     LET p_crst.d35 = 0.1111
     LET p_crst.d36 = 0.1111
     LET p_crst.d37 = 0.1111
     LET p_crst.d38 = 0.1111
     LET p_crst.d39 = 0.1111
END IF
IF p_crst.inspect_typ = "FIREFIGHTING" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_crst.d37 = 1.0
END IF
IF p_crst.inspect_typ = "COW" THEN
     LET p_crst.d2a1 = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "ANNUAL SHIP" THEN
END IF
IF p_crst.inspect_typ = "POL PREV EQUIP" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d31} = 1.0
END IF
IF p_crst.inspect_typ = "SANITARY INSP" THEN
```

LET p_crst.d2a1 = 1.0 LET p_crst.d2a2 = 1.0 LET p_crst.d35 = 1.0

END IF

```
IF p_crst.inspect_typ = "DWT SURVEY" THEN
      LET p_{crst.d2a1} = 1.0
      LET p_{crst.d38} = 1.0
 END IF
 IF p_crst.inspect_typ = "DISCREP FLWUP" THEN
 END IF
 IF p_crst.inspect_typ = "FIRE PROTECTN" THEN
      LET p_crst.d2a1 = 1.0
      LET p_{crst.d2a2} = 1.0
     LET p_crst.d2a3 = 1.0
      LET p_{crst.d37} = 1.0
 END IF
IF p_crst.inspect_typ = "ANNUAL FREIGH ON" THEN
END IF
IF p_crst.inspect_typ = "DISCREP FLWUP" OWUP" THEN
END IF
IF p_crst.inspect_typ = "SAFETY EQ MAT" THEN
END IF
IF p_crst.inspect_typ = "MON SHIP DC" THEN
END IF
IF p_crst.inspect_typ = "MARPOL I" THEN
END IF
IF p_crst.inspect_typ = "CREW LIC. CHK" THEN
     LET p_{crst.d2a1} = 1.0
     LET p_{crst.d2a2} = 1.0
     LET p_{crst.d33} = 1.0
END IF
IF p_crst.inspect_typ = "COA MARPOL I" THEN
END IF
IF p_crst.inspect_typ = "COA MARPOL V" THEN
END IF
IF p_crst.inspect_typ = "COA MARPOL II" THEN
```

END IF

UPDATE crst

SET crst.* = p_crst.*

WHERE CURRENT OF crst_cursor

LET counter = counter + 1

IF counter mod 1000 = 0 THEN
DISPLAY counter, "rows have been updated in CRST"
END IF

END FOREACH

MAIN

DEFINE counter INT, p_last RECORD LIKE insp.*

DECLARE last_cursor CURSOR FOR SELECT * FROM insp FOR UPDATE

LET counter = 0

FOREACH last_cursor INTO p_last.*

IF p_last.service = "FREIGHT SHIP" THEN

LET p_last.service = "FREIGHTER"

END IF

IF p_last.service = "PUBLIC FREIGHT" THEN

LET p_last.service = "FREIGHTER"

END IF

IF p_last.service = "TANK SHIP" THEN

LET p_last.service = "TANKER"

END IF

IF p_last.service = "PUB. TANKSHIP/BARGE" THEN

LET p_last.service = "TANKER"

END IF

IF p_last.service = "PASSENGER SHIP" THEN

LET p_last.service = "PASSENGER"

END IF

UPDATE insp SET insp.* = p_last.* WHERE CURRENT OF last_cursor

LET counter = counter + 1

IF counter mod 1000 = 0 THEN
DISPLAY counter, "rows have been updated in INSP"
END IF

END FOREACH

MAIN

DEFINE counter INT, p_last RECORD LIKE last_insp.*

DECLARE last_cursor CURSOR FOR SELECT * FROM last_insp FOR UPDATE

LET counter = 0

FOREACH last_cursor INTO p_last.*

IF p_last.service = "FREIGHT SH" THEN

LET p_last.service = "FREIGHT SHIP" THEN

IF p_last.service = "FREIGHT SHIP" THEN

LET p_last.service = "FREIGHTER"

END IF

IF p_last.service = "PUBLIC FREIGHT" THEN

LET p_last.service = "FREIGHTER"

END IF

IF p_last.service = "TANK SHIP" THEN

LET p_last.service = "TANKER"

END IF

IF p_last.service = "PUB. TANKSHIP/BARGE" THEN

LET p_last.service = "TANKER"

END IF

IF p_last.service = "PASSENGER SHIP" THEN

LET p_last.service = "PASSENGER SHIP" THEN

LET p_last.service = "PASSENGER"

LET $p_{last.counter} = 1$

END IF

UPDATE last_insp SET last_insp.* = p_last.* WHERE CURRENT OF last_cursor

LET counter = counter + 1

IF counter mod 1000 = 0 THEN
DISPLAY counter, "rows have been updated in LAST_INSP"

END IF

END FOREACH

B.2.2 INFORMIX Query Files For The Risk-Based Ranking Analysis - US Flag Vessels

```
File: per_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the number of deaths and injuries to be
-- attributed to each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpct.ddead) deaths,
 SUM(cpct.dinjury) injuries
FROM
 last_insp,
 cpct
WHERE
 last_insp.subject = cpct.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1:
SELECT
 t1.dist,
 t1.unit[1,3],
```

t1.service,

```
SUM(t1.deaths) deaths,
SUM(t1.injuries) injuries
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service;
```

```
File: pol_cas.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the amount of damage to be attributed to each MSO
-- last inspecting the vessel which had the casualty. The results are
-- grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  SUM(cpdt.in_water_spilled + cpdt.out_water_spilled) quantity
FROM
  last_insp,
  cpdt,
  civt
WHERE
  civt.subject = cpdt.subject
  AND cpdt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.quantity) quantity
FROM
 t1
```

GROUP BY t1.dist, t1.unit[1,3], t1.service ORDER BY t1.dist, t1.unit[1,3], t1.service

```
File: prop_cas.sql
              Author: Michael M. Dellenev
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the dollar amount of damage to be attributed to
-- each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
--DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
FROM
 last_insp,
 civt,
 cirt
WHERE
 cirt.mccase = civt.mccase
 AND civt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1:
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.total_damage) total_damage
FROM
```

t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service;

```
File: cas_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from LAST_INSP how many casualties are to be counted against the
-- district/unit performing the last inspection prior to the casualty.
OUTPUT TO ../output/cas_mso.out
SELECT
 last_insp.dist
                     district.
 last_insp.unit[1,3]
                     mso,
 last_insp.service
                     service,
 SUM(counter)
                            casualties
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service
                File: insp_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from INSP how many inspections by district, unit, and vessel
-- service were performed on US vessels between the years 1992 and 1993
-- inclusive.
OUTPUT TO ../output/insp_mso.out
SELECT
 last_insp.dist
                            district.
 last_insp.unit[1,3]
                     mso,
 insp.service
                     service.
 SUM(insp.counter) inspections
FROM
 insp
GROUP BY
 last_insp.dist,
 last_insp.unit[1,3],
```

insp.service
ORDER BY
last_insp.dist,
last_insp.unit[1,3],
insp.service

```
File: us_insp.sql
              Author: Michael M. Delleney
-- Date of last revision: 16 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file creates a new table in the MSMS database called INSP.
-- It brings data from the tables PORTS, IRIT, and VIDT into one place.
-- The records in the table represent all inspections performed on US
-- flagged freighters, tankers, and large passenger ships between the
-- 1990 through the most recent inspection listed in IRIT. Only the
-- CERT, HULL and REINSPECT inspection types are used, ADMIN, COC, and OTHER
-- were excluded from consideration.
DROP TABLE insp;
CREATE TABLE insp
 (dist
              SMALLINT,
  unit
              CHAR(5),
  service
              CHAR(19),
  flag
              CHAR(2),
  vkey
                     CHAR(10),
  micase
              CHAR(10),
  insp_typ
              CHAR(10),
  insp_dt
              DATE,
  counter
              SMALLINT);
INSERT INTO insp
 SELECT
   ports.dist.
   irit.unit,
   vidt.service,
   vidt.flag,
   irit.vkey,
   irit.micase,
   irit.inspect_type,
   irit.dt,
 FROM
   irit,
   ports,
   vidt
 WHERE
   vidt.vkey = irit.vkey
   AND irit.unit = ports.unit
```

AND irit.inspect_type IN ("CERT", "HULL", "REINSPECT")

AND irit.dt >= "01/01/1990"

AND (vidt.service IN ("FREIGHT SHIP", "PUBLIC FREIGHT",

"TANK SHIP", "PUB. TANKSHIP/BARGE")

OR (vidt.service in ("PASSENGER", "PASSENGER SHIP")

AND vidt.num_pass >= 100))

GROUP BY

ports.dist,

irit.unit,

irit.unit,
vidt.service,
vidt.flag,
irit.vkey,
irit.micase,
irit.inspect_type,
irit.dt;

```
File: cnt_vsl.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of vessels involved in casualties and
-- provides totals for the MSO and SERVICE.
--DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 SUM(last_insp.counter) num_svc
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service
INTO TEMP
 t1:
OUTPUT TO cnt_vsl.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.num_svc) num_svc
FROM
 t1
GROUP BY
 t1.dist,
 t1.unit[1,3],
 t1.service
ORDER BY
 t1.dist,
 t1.unit[1,3],
 t1.service;
```

```
OUTPUT TO in_cevt.out
               File: counting.sql
              Author: Michael M. Delleney
-- Date of last revision: 26 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- The purpose of the queries in this file are to determine, by MSO, MIO, and
-- service, how many of the cases involving vessel casualties are listed in
-- and out of cevt. Of those so listed as being in cevt, how many map to the
-- intervention activities outlined in "Progress Report on Project 3304.3 -
-- Research Methods to Analyze the Relationships Between the Inspection
-- Boarding Process and the Office of Marine Safety Goals: Task 3.1 -
-- Intervention Analysis, Draft TTC-1321" and how many map to "other"
-- activities.
-- Select those entries in last_insp which are also in cevt.
SELECT
  dist,
  unit[1,3],
  service,
  SUM(counter) counter
FROM
  last_insp
WHERE
  mccase IN (SELECT mccase FROM cevt)
GROUP BY
  dist,
  unit[1,3],
  service
ORDER BY
  dist.
  unit[1,3],
  service;
OUTPUT TO out_cevt.out
-- Now we want to determine how many vessel casualties listed in last_insp are
-- not also listed in cevt.
  SELECT
    dist,
    unit[1,3],
    service,
```

```
SUM(counter) counter
 FROM
  last_insp
 WHERE
  mccase NOT IN (SELECT mccase FROM cevt)
 GROUP BY
   dist,
   unit[1,3],
   service
 ORDER BY
   dist
   unit[1,3],
   service;
OUTPUT TO intervene out
-- Select and count those entries in last_insp which do not have an "other"
-- ("0") entry in cevt but have some other entry from the set "1"-"9".
 SELECT
   dist,
   unit[1,3],
   service,
   SUM(counter) counter
 FROM
   last_insp
 WHERE
   mccase IN (SELECT mccase FROM cevt WHERE dtype
              IN ("1","2","3","4","5","6","7","8","9"))
 GROUP BY
   dist
   unit[1,3],
   service,
   counter
 ORDER BY
   dist.
   unit[1,3],
   service,
   counter;
OUTPUT TO other.out
-- Select and count those entries in last_insp which have an "other" ("0")
-- entry in cevt. Be sure and filter out those entries that do, in fact
-- have intervention activities also listed.
```

```
SELECT
 dist,
 unit[1,3],
 service,
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt WHERE dtype IN ("0"))
 AND mccase NOT IN (SELECT mccase FROM cevt WHERE dtype
                  IN ("1","2","3","4","5","6","7","8","9"))
GROUP BY
 dist,
 unit[1,3],
 service
ORDER BY
 dist,
 unit[1,3],
 service;
```

```
File: int_act_1.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Cargo Handling/Pollution Control
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "1"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
  cevt.dtype
INTO TEMP
  t1;
OUTPUT TO int_act_1.out
SELECT
  t1.dist,
  t1.unit[1,3],
  t1.service,
  t1.dtype,
```

SUM(t1.counter) counter

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_2.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Steering/Navigation
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "2"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
INTO TEMP
  t1:
OUTPUT TO int_act_2.out
SELECT
  t1.dist,
  t1.unit[1,3],
```

t1.service,

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_3.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Document/Paperwork
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "3"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_3.out
SELECT
 t1.dist,
 t1.unit[1,3],
  t1.service,
```

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_4.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Drills/Human Factors
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "4"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_4.out
SELECT
 t1.dist,
 t1.unit[1,3],
  t1.service,
```

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_5.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Auxiliary Systems
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "5"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_5.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
```

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_6.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Power Plant intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "6"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_6.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_7.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Fire Fighting and Prevention
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "7"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_7.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
```

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_8.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of HULL intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "8"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO int_act_8.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 t1.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_9.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Life Saving
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "9"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO int_act_9.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: last_insp.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file creates a new table in the MSMS database called LAST_INSP.
-- It determines which USCG activity performed the last inspection on a
-- vessel prior to a casualty listed in CIRT and CIVT.
-- The tables used are INSP, CIVT, and CIRT.
-- Three temporary tables are created TINSP, TINSP_2, and TINSP_3.
-- The table INSP must be present in MSMS in order for LAST_INSP to be
-- created. If it is not then run the SQL file INSP.SQL contain in the same
-- directory as this file.
-- See each SELECT statement for information concerning what it does.
-- These are here depending on whether the table was created during the
-- current invocation of ISQL or not.
-- DROP TABLE tinsp;
--DROP TABLE tinsp_2;
--DROP TABLE tinsp_3;
DROP TABLE last_insp;
CREATE TABLE last_insp
 (dist
              SMALLINT,
  unit
              CHAR(5),
             CHAR(19),
  service
  vkey
                     CHAR(10),
  micase
              CHAR(10),
  mccase
              CHAR(10),
  subject
              CHAR(10),
  insp_dt
              DATE,
  incident dt DATE,
              SMALLINT);
  counter
-- This select statement takes all vessel incidents occurring in 1992 and
-- 1993 and extracts all records where the vessel was inspected on or before
-- the casualty date and places the results in the temporary table
-- TINSP.
SELECT
 insp.unit,
```

insp.dist,

```
civt.service,
 insp.vkey,
 insp.micase,
 civt.mccase,
 civt.subject,
 insp.insp_dt,
 cirt.incident dt
FROM
 cirt,
 civt,
 insp
WHERE
 cirt.mccase = civt.mccase
 AND civt.vkey = insp.vkey
 AND cirt.incident_dt BETWEEN "01/01/1992" AND "12/31/1993"
 AND insp.insp_dt <= cirt.incident_dt
 AND civt.flag = "US"
GROUP BY
 insp.dist,
 insp.unit,
 civt.service,
 insp.vkey,
 insp.micase,
 civt.mccase,
 civt.subject,
 insp.insp_dt,
 cirt.incident dt
ORDER BY
 insp.dist,
 insp.unit,
 civt.service,
 insp.vkey,
 insp.micase,
 civt.mccase,
 civt.subject,
 cirt.incident_dt
INTO TEMP
 tinsp;
-- This SELECT statement simply extracts the most recent inspection date
-- for a given vessel in a particular accident and places it into temporary
-- table TINSP_2
```

SELECT

```
tinsp.subject,
 MAX(tinsp.insp_dt) insp_dt
FROM
 tinsp
GROUP BY
 tinsp.subject
INTO TEMP
 tinsp_2;
-- If there are more than one inspection on a particular date for a given
-- vessel in a given accident, then the record with the largest case number
-- is selected on the assumption that it is the most recent inspection.
-- TINSP_3 now contains only one inspection for a particular ship
-- involved in a particular casualty along with the date of its last
-- inspection.
SELECT
tinsp.subject,
 MAX(tinsp.micase) micase,
 tinsp.insp_dt
FROM
 tinsp,
 tinsp_2
WHERE
 tinsp.subject = tinsp_2.subject
  AND tinsp.insp_dt = tinsp_2.insp_dt
GROUP BY
 tinsp.subject,
  tinsp.insp_dt
INTO TEMP
  tinsp_3;
-- From TINSP which contains all of the columns of interest (and all
-- inspections performed before the casualty) and TINSP_3 which contains the
-- SUBJECT (particular ship for a particular casualty), MICASE (inspection
-- case number), and INSP_DT (date of the last inspection prior to the
-- casualty) the table LAST_INSP is generated by comparing the two and
-- taking only those records occurring in both tables.
INSERT INTO last_insp
  (dist,
  unit,
  service.
  vkey,
```

```
micase,
mccase,
subject,
insp_dt,
incident_dt)
SELECT
 tinsp.dist,
 tinsp.unit,
 tinsp.service,
 tinsp.vkey,
 tinsp.micase,
 tinsp.mccase,
 tinsp.subject,
 tinsp.insp_dt,
 tinsp.incident_dt
FROM
 tinsp,
 tinsp_2,
 tinsp_3
WHERE
 tinsp.subject = tinsp_3.subject
 AND tinsp.micase = tinsp_3.micase
 AND tinsp_insp_dt = tinsp_3.insp_dt
GROUP BY
 tinsp.dist,
 tinsp.unit,
 tinsp.service,
 tinsp.vkey,
 tinsp.micase,
 tinsp.mccase,
 tinsp.subject,
 tinsp.insp_dt,
 tinsp.incident_dt;
```

```
File: per_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the number of deaths and injuries to be
-- attributed to each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpct.ddead) deaths,
 SUM(cpct.dinjury) injuries
FROM
 last_insp,
 cpct
WHERE
 last_insp.subject = cpct.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/per_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.deaths) deaths,
 SUM(t1.injuries) injuries
FROM
```

tl GROUP BY tl.dist, tl.unit[1,3], tl.service ORDER BY tl.dist, tl.unit[1,3], tl.service;

```
File: pol_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the amount of damage to be attributed to each MSO
-- last inspecting the vessel which had the casualty. The results are
-- grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpdt.in_water_spilled + cpdt.out_water_spilled) quantity
FROM
 last_insp,
 cpdt,
 civt
WHERE
 civt.subject = cpdt.subject
 AND cpdt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/pol_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
```

```
SUM(t1.quantity) quantity
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service;
```

```
File: prop_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the dollar amount of damage to be attributed to
-- each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
FROM
 last_insp,
 civt,
 cirt
WHERE
 cirt.mccase = civt.mccase
 AND civt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp_unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/prop_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
```

```
SUM(t1.total_damage) total_damage
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service;
```

OUTPUT TO output/cas_mso.out

```
File: cas_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from LAST_INSP how many casualties are to be counted against the
-- district/unit performing the last inspection prior to the casualty.
SELECT
 last_insp.dist
                     district,
 last_insp.unit[1,3]
                     mso,
 last_insp.service
                     service.
 SUM(counter)
                            casualties
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service;
OUTPUT TO output/insp_mso.out
               File: insp_mso.sql
              Author: Michael M. Dellenev
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from INSP how many inspections by district, unit, and vessel
-- service were performed on US vessels between the years 1992 and 1993
-- inclusive.
SELECT
 insp.dist
                     district,
 insp.unit[1,3]
                     mso,
 insp.service
                     service,
 SUM(insp.counter) inspections
FROM
 insp
GROUP BY
 insp.dist,
 insp.unit[1,3],
```

insp.service ORDER BY insp.dist, insp.unit[1,3], insp.service;

```
File: cnt_vsl.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
         Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of vessels involved in casualties and
-- provides totals for the MSO and SERVICE.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 SUM(last_insp.counter) num_svc
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service
INTO TEMP
 t1;
OUTPUT TO output/cnt_vsl.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.num_svc) num_svc
FROM
 t1
GROUP BY
 tl.dist,
 t1.unit[1,3],
 t1.service
ORDER BY
 t1.dist,
 t1.unit[1,3],
 t1.service;
```

OUTPUT TO output/in_cevt.out

```
File: counting.sql
              Author: Michael M. Delleney
-- Date of last revision: 26 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- The purpose of the queries in this file are to determine, by MSO, MIO, and
-- service, how many of the cases involving vessel casualties are listed in
-- and out of cevt. Of those so listed as being in cevt, how many map to the
-- intervention activities outlined in "Progress Report on Project 3304.3 -
-- Research Methods to Analyze the Relationships Between the Inspection
-- Boarding Process and the Office of Marine Safety Goals: Task 3.1 -
-- Intervention Analysis, Draft TTC-1321" and how many map to "other"
-- activities.
-- Select those entries in last_insp which are also in cevt.
SELECT
 dist,
 unit[1,3],
 service,
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt)
GROUP BY
 dist,
 unit[1,3],
 service
ORDER BY
 dist,
 unit[1,3],
 service;
OUTPUT TO output/out_cevt.out
-- Now we want to determine how many vessel casualties listed in last_insp are
-- not also listed in cevt.
 SELECT
   dist,
   unit[1,3],
   service.
```

```
SUM(counter) counter
  FROM
   last_insp
  WHERE
   mccase NOT IN (SELECT mccase FROM cevt)
  GROUP BY
   dist.
   unit[1,3],
   service
  ORDER BY
   dist.
   unit[1,3],
   service;
OUTPUT TO output/intervene.out
-- Select and count those entries in last_insp which do not have an "other"
-- ("0") entry in cevt but have some other entry from the set "1"-"9".
  SELECT
   dist,
   unit[1,3],
   service,
   SUM(counter) counter
 FROM
   last_insp
 WHERE
   mccase IN (SELECT mccase FROM cevt WHERE dtype
              IN ("1","2","3","4","5","6","7","8","9"))
 GROUP BY
   dist.
   unit[1,3],
   service,
   counter
 ORDER BY
   dist,
   unit[1,3],
   service,
   counter;
OUTPUT TO output/other.out
-- Select and count those entries in last_insp which have an "other" ("0")
-- entry in cevt. Be sure and filter out those entries that do, in fact
-- have intervention activities also listed.
```

```
SELECT
 dist,
 unit[1,3],
 service,
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt WHERE dtype IN ("0"))
 AND mccase NOT IN (SELECT mccase FROM cevt WHERE dtype
                  IN ("1","2","3","4","5","6","7","8","9"))
GROUP BY
 dist,
 unit[1,3],
 service
ORDER BY
 dist,
 unit[1,3],
 service;
```

```
File: int_act_1.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Cargo Handling/Pollution Control
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "1"
GROUP BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
ORDER BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
INTO TEMP
OUTPUT TO output/int_act_1.out
SELECT
  t1.dist,
  t1.unit[1,3],
  t1.service,
  t1.dtype,
  SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_2.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Steering/Navigation
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "2"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_2.out
SELECT
 tl.dist,
  t1.unit[1,3],
  t1.service,
  t1.dtype,
```

SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,

t1.dtype;

```
File: int_act_3.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Document/Paperwork
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "3"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_3.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 t1.dtype,
```

SUM(t1.counter) counter FROM t1 GROUP BY t1.dist, t1.unit[1,3], t1.service, t1.dtype ORDER BY t1.dist, t1.unit[1,3], t1.service, t1.dtype;

```
File: int_act_4.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Drills/Human Factors
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "4"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_4.out
SELECT
 t1.dist.
 t1.unit[1,3],
 t1.service,
 t1.dtype,
```

SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_5.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Auxiliary Systems
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "5"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_5.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_6.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Power Plant intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "6"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_6.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 tl.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_7.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Fire Fighting and Prevention
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "7"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_7.out
SELECT
 t1.dist.
 t1.unit[1,3],
 t1.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dype;
```

```
File: int_act_8.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of HULL intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "8"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_8.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 t1.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_9.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Life Saving
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "9"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_9.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

B.2.4 INFORMIX Query Files For The Risk-Based Ranking Analysis - Foreign Flag Vessels

```
File: per_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the number of deaths and injuries to be
-- attributed to each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpct.ddead) deaths,
 SUM(cpct.dinjury) injuries
FROM
 last_insp,
 cpct
WHERE
 last_insp.subject = cpct.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last insp.subject
INTO TEMP
 t1;
OUTPUT TO output/per_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 SUM(t1.deaths) deaths,
```

```
SUM(t1.injuries) injuries
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service;
```

```
File: pol_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the amount of damage to be attributed to each MSO
-- last inspecting the vessel which had the casualty. The results are
-- grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpdt.in_water_spilled + cpdt.out_water_spilled) quantity
FROM
 last_insp,
 cpdt,
 civt
WHERE
 civt.subject = cpdt.subject
 AND cpdt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/pol_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 SUM(t1.quantity) quantity
FROM
```

tl GROUP BY tl.dist, tl.unit[1,3], tl.service ORDER BY tl.dist, tl.unit[1,3], tl.service

```
File: prop_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the dollar amount of damage to be attributed to
-- each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
--DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
FROM
 last_insp,
 civt,
 cirt
WHERE
 cirt.mccase = civt.mccase
 AND civt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cirt.total_damage
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/prop_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service.
 SUM(t1.total_damage) total_damage
```

FROM t1 GROUP BY t1.dist, t1.unit[1,3], t1.service ORDER BY t1.dist, t1.unit[1,3], t1.service;

```
OUTPUT TO output/cas_mso.out
                File: cas_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from LAST_INSP how many casualties are to be counted against the
-- district/unit performing the last inspection prior to the casualty.
SELECT
 last_insp.dist
                     district,
 last_insp.unit[1,3] mso,
 last_insp.service
                     service,
 SUM(counter)
                            casualties
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit[1,3],
```

OUTPUT TO output/insp_mso.out

last_insp.service;

```
File: insp_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from INSP how many inspections by district, unit, and vessel
-- service were performed on US vessels between the years 1992 and 1993
-- inclusive.
SELECT
 insp.dist
                     district,
 insp.unit[1,3]
                     mso,
 insp.service
                     service,
 SUM(insp.counter) inspections
FROM
 insp
GROUP BY
 insp.dist,
 insp.unit[1,3],
 insp.service
ORDER BY
 insp.dist,
 insp.unit[1,3],
 insp.service;
```

```
File: per_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the number of deaths and injuries to be
-- attributed to each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 SUM(cpct.ddead) deaths,
 SUM(cpct.dinjury) injuries
FROM
 last_insp,
 cpct
WHERE
 last_insp.subject = cpct.subject
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/pers_cas.out
SELECT
  t1.dist,
  t1.service.
  SUM(t1.deaths) deaths,
  SUM(t1.injuries) injuries
FROM
  t1
GROUP BY
  t1.dist.
  t1.service
```

ORDER BY t1.dist, t1.service;

```
File: pol_cas.sql
                Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
 -- This file calculates the amount of damage to be attributed to each MSO
 -- last inspecting the vessel which had the casualty. The results are
 -- grouped by vessel service and MSO and finally district.
 DROP TABLE t1:
 SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  SUM(cpdt.in_water_spilled + cpdt.out_water_spilled) quantity
 FROM
  last_insp,
  cpdt,
  civt
 WHERE
  civt.subject = cpdt.subject
  AND cpdt.subject = last_insp.subject
GROUP BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject
ORDER BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject
INTO TEMP
 t1:
OUTPUT TO output/pol_cas.out
SELECT
 t1.dist,
 t1.service,
 SUM(t1.quantity) quantity
FROM
 t1
GROUP BY
 t1.dist,
 t1.service
```

ORDER BY t1.dist, t1.service;

```
File: prop_cas.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the dollar amount of damage to be attributed to
-- each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cirt.total_damage
FROM
  last_insp,
  civL
  cirt
WHERE
  cirt.mccase = civt.mccase
  AND civt.subject = last_insp.subject
GROUP BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cirt.total_damage
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/prop_cas.out
SELECT
 tl.dist.
 t1.service,
 SUM(t1.total_damage) total_damage
FROM
 t1
GROUP BY
 t1.dist.
```

t1.service ORDER BY t1.dist, t1.service;

OUTPUT TO output/cas_dist.out

File: cas_dist.sql

Author: Michael M. Delleney

-- Date of last revision: 18 AUG 1994

Environment: Informix Online 5.01 and I-SQL 4.11

-- Determine from LAST_INSP how many casualties are to be counted against the

-- district performing the last inspection prior to the casualty.

SELECT

last_insp.dist district, last_insp.service service,

SUM(counter)

casualties

FROM

last_insp

GROUP BY

last_insp.dist,

last_insp.service

ORDER BY

last_insp.dist,

last_insp.service;

OUTPUT TO output/insp_dist.out

```
File: insp_dist.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from INSP how many inspections by district and vessel
-- service were performed on US vessels between the years 1992 and 1993
-- inclusive.
SELECT
 insp.dist
                    district.
 insp.service
                    service,
 SUM(insp.counter) inspections
FROM
 insp
GROUP BY
 insp.dist,
 insp.service
ORDER BY
 insp.dist,
 insp.service;
OUTPUT TO output/in_cevt.out
```

```
File: counting.sql
               Author: Michael M. Delleney
 -- Date of last revision: 26 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
 -- The purpose of the queries in this file are to determine, by MSO, MIO, and
 -- service, how many of the cases involving vessel casualties are listed in
 -- and out of cevt. Of those so listed as being in cevt, how many map to the
 -- intervention activities outlined in "Progress Report on Project 3304.3 -
 -- Research Methods to Analyze the Relationships Between the Inspection
 -- Boarding Process and the Office of Marine Safety Goals: Task 3.1 -
 -- Intervention Analysis, Draft TTC-1321" and how many map to "other"
 -- activities.
 -- Select those entries in last_insp which are also in cevt.
 SELECT
  dist,
  service.
  SUM(counter) counter
FROM
  last_insp
WHERE
  mccase IN (SELECT mccase FROM cevt)
GROUP BY
  dist.
  service
ORDER BY
 dist,
 service:
OUTPUT TO output/out_cevt.out
-- Now we want to determine how many vessel casualties listed in last_insp are
-- not also listed in cevt.
 SELECT
   dist
   service,
   SUM(counter) counter
 FROM
  last_insp
 WHERE
  mccase NOT IN (SELECT mccase FROM cevt)
```

```
GROUP BY
   dist
   service
  ORDER BY
   dist
   service:
OUTPUT TO output/intervene.out
-- Select and count those entries in last_insp which do not have an "other"
-- ("0") entry in cevt but have some other entry from the set "1"-"9".
  SELECT
   dist
   service,
   SUM(counter) counter
 FROM
   last_insp
  WHERE
   mccase IN (SELECT mccase FROM cevt WHERE dtype
              N ("1","2","3","4","5","6","7","8","9"))
 GROUP BY
   dist
   service.
   counter
 ORDER BY
   dist
   service.
   counter;
OUTPUT TO output/other.out
-- Select and count those entries in last_insp which have an "other" ("0")
-- entry in cevt. Be sure and filter out those entries that do, in fact
-- have intervention activities also listed.
 SELECT
  dist
   service,
   SUM(counter) counter
 FROM
  last_insp
 WHERE
  mccase IN (SELECT mccase FROM cevt WHERE dtype IN ("0"))
  AND mccase NOT IN (SELECT mccase FROM cevt WHERE dtype
                    IN ("1","2","3","4","5","6","7","8","9"))
```

GROUP BY
dist,
service
ORDER BY
dist,
service;

```
File: int_act_1.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
 -- Finds and totals the number of Cargo Handling/Pollution Control
 -- intervention activities from cevt.
 DROP TABLE t1;
 SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
 FROM
  last_insp,
  cevt
 WHERE
  last_insp.mccase = cevt.mccase
  AND cevt.dtype = "1"
GROUP BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
ORDER BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
INTO TEMP
 tl:
OUTPUT TO output/int_act_1.out
SELECT
 t1.dist,
 tl.service.
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
File: int_act_2.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Steering/Navigation
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "2"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_2.out
SELECT
 t1.dist,
 tl.service,
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
```

GROUP BY tl.dist, tl.service, tl.dtype ORDER BY tl.dist, tl.service, tl.dtype;

```
File: int_act_3.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Document/Paperwork
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "3"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_3.out
SELECT
 t1.dist,
 t1.service,
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
File: int_act_4.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Drills/Human Factors
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
 last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "4"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_4.out
SELECT
 t1.dist.
 t1.service,
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
File: int_act_5.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Auxiliary Systems
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "5"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_5.out
SELECT
 t1.dist,
 tl.service,
 t1.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
File: int_act_6.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Power Plant intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
  last_insp.mccase = cevt.mccase
  AND cevt.dtype = "6"
GROUP BY
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
ORDER BY
  last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_6.out
SELECT
 t1.dist,
 tl.service,
 t1.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
 t1.dist,
```

```
File: int_act_7.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Fire Fighting and Prevention
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "7"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_7.out
SELECT
 t1.dist.
 tl.service,
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
File: int_act_8.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of HULL intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
  last_insp.mccase = cevt.mccase
  AND cevt.dtype = "8"
GROUP BY
  last_insp.dist,
 last_insp.service,
 last_insp.subject,
  cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_8.out
SELECT
 t1.dist,
 tl.service,
 t1.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
 tl.dist,
```

```
File: int_act_9.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Life Saving
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "9"
GROUP BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_9.out
SELECT
 tl.dist.
 tl.service,
 tl.dtype,
 SUM(t1.counter) counter
FROM
 t1
GROUP BY
```

```
OUTPUT TO output/in_cevt.out
                File: counting.sql
               Author: Michael M. Delleney
 -- Date of last revision: 26 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- The purpose of the queries in this file are to determine, by MSO, MIO, and
-- service, how many of the cases involving vessel casualties are listed in
-- and out of cevt. Of those so listed as being in cevt, how many map to the
-- intervention activities outlined in "Progress Report on Project 3304.3 -
-- Research Methods to Analyze the Relationships Between the Inspection
-- Boarding Process and the Office of Marine Safety Goals: Task 3.1 -
-- Intervention Analysis, Draft TTC-1321" and how many map to "other"
-- activities.
-- Select those entries in last_insp which are also in cevt.
SELECT
  dist,
  unit[1,3],
  service,
  SUM(counter) counter
FROM
  last_insp
WHERE
  mccase IN (SELECT mccase FROM cevt)
GROUP BY
  dist.
  unit[1,3],
  service
ORDER BY
 dist,
 unit[1,3],
 service;
OUTPUT TO output/out_cevt.out
-- Now we want to determine how many vessel casualties listed in last_insp are
-- not also listed in cevt.
 SELECT
   dist
   unit[1,3],
```

```
service,
   SUM(counter) counter
  FROM
   last_insp
  WHERE
   mccase NOT IN (SELECT mccase FROM cevt)
  GROUP BY
   dist
   unit[1,3],
   service
  ORDER BY
   dist.
   unit[1,3],
   service;
OUTPUT TO output/intervene.out
-- Select and count those entries in last_insp which do not have an "other"
-- ("0") entry in cevt but have some other entry from the set "1"-"9".
  SELECT
   dist
   unit[1,3],
   service,
   SUM(counter) counter
 FROM
   last_insp
 WHERE
   mccase IN (SELECT mccase FROM cevt WHERE dtype
              IN ("1","2","3","4","5","6","7","8","9"))
 GROUP BY
   dist
   unit[1,3],
   service,
   counter
 ORDER BY
   dist
   unit[1,3],
   service,
   counter;
OUTPUT TO output/other.out
-- Select and count those entries in last_insp which have an "other" ("0")
-- entry in cevt. Be sure and filter out those entries that do, in fact
-- have intervention activities also listed.
```

```
SELECT
 dist,
 unit[1,3],
 service,
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt WHERE dtype IN ("0"))
 AND mccase NOT IN (SELECT mccase FROM cevt WHERE dtype
                 IN ("1","2","3","4","5","6","7","8","9"))
GROUP BY
 dist,
 unit[1,3],
 service
ORDER BY
 dist,
 unit[1,3],
 service;
```

```
File: int_act_1.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Cargo Handling/Pollution Control
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "1"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_1.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
```

11.dtype,

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_2.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Steering/Navigation
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "2"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_2.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_3.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Document/Paperwork
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "3"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_3.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_4.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Drills/Human Factors
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "4"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_4.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_5.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Auxiliary Systems
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "5"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_5.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 t1.dtype,
```

SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_6.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Power Plant intervention activities from cevt.
DROP TABLE t1:
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "6"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_6.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_7.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Fire Fighting and Prevention
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "7"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_7.out
SELECT
 t1.dist,
 t1.unit[1,3],
```

tl.service,

```
t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_8.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of HULL intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "8"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_8.out
SELECT
 t1.dist,
 t1.unit[1,3],
 t1.service,
 tl.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_9.sql
                Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
            Environment: Informix Online 5.01 and I-SQL 4.11
 -- Finds and totals the number of Life Saving
 -- intervention activities from cevt.
 DROP TABLE t1;
 SELECT
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
 FROM
  last_insp,
  cevt
 WHERE
  last_insp.mccase = cevt.mccase
  AND cevt.dtype = "9"
GROUP BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype
ORDER BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_9.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: per_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the number of deaths and injuries to be
-- attributed to each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
--DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpct.ddead) deaths,
 SUM(cpct.dinjury) injuries
FROM
 last_insp,
 cpct
WHERE
 last_insp.subject = cpct.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1;
OUTPUT TO output/per_cas.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 SUM(t1.deaths) deaths,
```

SUM(t1.injuries) injuries

FROM tl GROUP BY tl.dist, tl.unit[1,3], tl.service ORDER BY tl.dist, tl.unit[1,3],

tl.service;

```
File: pol_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the amount of damage to be attributed to each MSO
-- last inspecting the vessel which had the casualty. The results are
-- grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 SUM(cpdt.in_water_spilled + cpdt.out_water_spilled) quantity
FROM
 last_insp,
 cpdt,
 civt
WHERE
 civt.subject = cpdt.subject
 AND cpdt.subject = last_insp.subject
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject
INTO TEMP
 t1:
OUTPUT TO output/pol_cas.out
SELECT
 t1.dist.
 t1.unit[1,3],
 t1.service,
 SUM(t1.quantity) quantity
FROM
```

tl GROUP BY tl.dist, tl.unit[1,3], tl.service ORDER BY tl.dist, tl.unit[1,3], tl.service

```
File: prop_cas.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- This file calculates the dollar amount of damage to be attributed to
-- each MSO last inspecting the vessel which had the casualty.
-- The results are grouped by vessel service and MSO and finally district.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cirt.total_damage
FROM
  last_insp,
  civt.
  cirt
WHERE
  cirt.mccase = civt.mccase
  AND civt.subject = last_insp.subject
GROUP BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cirt.total_damage
ORDER BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject
INTO TEMP
  t1:
 OUTPUT TO output/prop_cas.out
 SELECT
  t1.dist.
  t1.unit[1,3],
  tl.service,
  SUM(t1.total_damage) total_damage
```

```
FROM
  t1
GROUP BY
  tl.dist.
  t1.unit[1,3],
  tl.service
ORDER BY
  t1.dist.
 t1.unit[1,3],
 tl.service;
OUTPUT TO output/cas_mso.out
                File: cas_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from LAST_INSP how many casualties are to be counted against the
-- district/unit performing the last inspection prior to the casualty.
SELECT
 last_insp.dist
                     district.
 last_insp.unit[1,3]
                     mso,
 last_insp.service
                     service,
 SUM(counter)
                            casualties
FROM
 last_insp
GROUP BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service
ORDER BY
 last_insp.dist,
 last_insp.unit[1,3],
 last_insp.service;
```

```
OUTPUT TO output/insp_mso.out
               File: insp_mso.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Determine from INSP how many inspections by district, unit, and vessel
-- service were performed on US vessels between the years 1992 and 1993
-- inclusive.
SELECT
 insp.dist
                     district,
 insp.unit[1,3]
                     mso,
 insp.service
                     service.
 SUM(insp.counter) inspections
FROM
 insp
GROUP BY
 insp.dist,
 insp.unit[1,3],
 insp.service
ORDER BY
 insp.dist,
 insp.unit[1,3],
 insp.service;
```

```
OUTPUT TO output/in_cevt.out
                File: counting.sql
               Author: Michael M. Delleney
-- Date of last revision: 26 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- The purpose of the queries in this file are to determine, by MSO, MIO, and
-- service, how many of the cases involving vessel casualties are listed in
-- and out of cevt. Of those so listed as being in cevt, how many map to the
-- intervention activities outlined in "Progress Report on Project 3304.3 -
-- Research Methods to Analyze the Relationships Between the Inspection
-- Boarding Process and the Office of Marine Safety Goals: Task 3.1 -
-- Intervention Analysis, Draft TTC-1321" and how many map to "other"
-- activities.
-- Select those entries in last_insp which are also in cevt.
SELECT
  dist,
  unit[1,3],
  service.
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt)
GROUP BY
 dist.
 unit[1,3],
  service
ORDER BY
 dist,
 unit[1,3].
 service;
OUTPUT TO output/out_cevt.out
-- Now we want to determine how many vessel casualties listed in last_insp are
-- not also listed in cevt.
 SELECT
   dist.
   unit[1,3],
```

```
service,
   SUM(counter) counter
  FROM
   last_insp
  WHERE
   mccase NOT IN (SELECT mccase FROM cevt)
  GROUP BY
   dist
   unit[1,3],
   service
  ORDER BY
   dist
   unit[1,3],
   service;
OUTPUT TO output/intervene.out
-- Select and count those entries in last_insp which do not have an "other"
-- ("0") entry in cevt but have some other entry from the set "1"-"9".
  SELECT
   dist
   unit[1,3],
   service,
   SUM(counter) counter
 FROM
   last_insp
 WHERE
   mccase IN (SELECT mccase FROM cevt WHERE dtype
              IN ("1","2","3","4","5","6","7","8","9"))
 GROUP BY
   dist
   unit[1,3],
   service,
   counter
 ORDER BY
   dist
   unit[1,3],
   service,
   counter,
OUTPUT TO output/other.out
-- Select and count those entries in last_insp which have an "other" ("0")
-- entry in cevt. Be sure and filter out those entries that do, in fact
-- have intervention activities also listed.
```

```
SELECT
 dist,
 unit[1,3],
 service,
 SUM(counter) counter
FROM
 last_insp
WHERE
 mccase IN (SELECT mccase FROM cevt WHERE dtype IN ("0"))
 AND mccase NOT IN (SELECT mccase FROM cevt WHERE dtype
                 IN ("1","2","3","4","5","6","7","8","9"))
GROUP BY
 dist,
 unit[1,3],
 service
ORDER BY
 dist,
 unit[1,3],
 service;
```

```
File: int_act_1.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Cargo Handling/Pollution Control
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "1"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_1.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_2.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
 -- Finds and totals the number of Steering/Navigation
 -- intervention activities from cevt.
DROP TABLE t1:
SELECT
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
  last_insp.mccase = cevt.mccase
  AND cevt.dtype = "2"
GROUP BY
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
 last_insp.subject,
 cevt.dtvpe
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_2.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_3.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Document/Paperwork
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "3"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_3.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
```

t1.dtype,
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_4.sql
              Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Drills/Human Factors
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "4"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_4.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_5.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Auxiliary Systems
-- intervention activities from cevt.
DROP TABLE t1;
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "5"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_5.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 t1.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

```
File: int_act_6.sql
               Author: Michael M. Delleney
 -- Date of last revision: 18 AUG 1994
           Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Power Plant intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
  last_insp.unit,
  last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "6"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_6.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
 t1.dtype,
 SUM(t1.counter) counter
```

FROM t1 GROUP BY t1.dist, t1.unit[1,3], t1.service, t1.dtype ORDER BY t1.dist, t1.unit[1,3], t1.service, t1.dtype;

```
File: int_act_7.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Fire Fighting and Prevention
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
  last_insp.dist,
  last_insp.unit,
 last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
 last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "7"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_7.out
SELECT
 t1.dist,
 t1.unit[1,3],
 tl.service,
```

tl.dtype,

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
```

```
File: int_act_8.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of HULL intervention activities from cevt.
DROP TABLE t1;
SELECT
  last_insp.dist,
 last_insp.unit,
 last_insp.service,
  last_insp.subject,
  cevt.dtype,
  SUM(cevt.counter) counter
FROM
  last_insp,
  cevt
WHERE
 last_insp.mccase = cevt.mccase
  AND cevt.dtype = "8"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1:
OUTPUT TO output/int_act_8.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
 SUM(t1.counter) counter
```

FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;

```
File: int_act_9.sql
               Author: Michael M. Delleney
-- Date of last revision: 18 AUG 1994
          Environment: Informix Online 5.01 and I-SQL 4.11
-- Finds and totals the number of Life Saving
-- intervention activities from cevt.
DROP TABLE t1:
SELECT
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype,
 SUM(cevt.counter) counter
FROM
 last_insp,
 cevt
WHERE
 last_insp.mccase = cevt.mccase
 AND cevt.dtype = "9"
GROUP BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
ORDER BY
 last_insp.dist,
 last_insp.unit,
 last_insp.service,
 last_insp.subject,
 cevt.dtype
INTO TEMP
 t1;
OUTPUT TO output/int_act_9.out
SELECT
 t1.dist.
 t1.unit[1,3],
 tl.service,
 tl.dtype,
```

```
SUM(t1.counter) counter
FROM
t1
GROUP BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype
ORDER BY
t1.dist,
t1.unit[1,3],
t1.service,
t1.dtype;
```

B.3 INFORMIX Query Files For the Econometric Analysis

This appendix contains the SQL programs used to query the MSMS database and construct the data sets used in the econometric analysis. The programs are written in INFORMIX (ISQL) and are easily translated into other SQL-based database software that are designed to manage relational databases such as SYBASE. Minor syntax modifications may be needed before these programs can be implemented from SQL-based software other than INFORMIX.

The program names appear in bold and the following contains the sequence of runs required to create each econometric data set. Programs must be run in the order in which they appear in the instructions below.

- I. Poisson Model runs for Level I and Level III activities, MI and PS cases.
- (i) MI Cases
 - 1. Level I: Run MINSP1.SQL, MIINSP3.SQL.
 Then run MIPERS1.SQL, and MIPERS2.SQL for Personnel casualties, and MIPERS1.SQL, and MIPERS2.SQL for Pollution casualties.
 - 2. Level III: Run MID3139.SQL. It includes everything from start to finish, but takes 4-5 hours to run.
- (ii) PS Cases
 - 1. Level I: Run PSINSP1.SQL, PSINSP2.SQL, PSINSP3.SQL.

 Then run PSPERS1.SQL, and PSPERS2.SQL for Personnel casualties, and PSPERS1.SQL, and PSPERS2.SQL for Pollution casualties.
- II. <u>Duration Model runs for Level II activities:</u>
 U.S, flag (A-activities), Foreign flag (B-activities)
- (i) A-activities
- 1. Level II: Run DUR_A1.SQL, DUR_A2.SQL, DUR_A3.SQL duration data for each activity, A1, A2, A3, respectively.
- (ii) B-activities
- 2. Level II: Run DUR_B.SQL. Since the activities B1, B2, and B3 are distinguished by vessel service, separate analysis by service is done econometric analysis. The SQL program produces just one data set (that includes all services).

PROGRAMS FOR POISSON DATA SETS

MIINSP1.SQL

```
(For the hours of inspection equation have (i) num_def from IRIT and
 (ii) indicators for inspection types from both CRST and IRIT added up here.
 Need to check them against each other for integrity, and also the average
 for the data set to see if they make sense. See handout for logic of their
 inclusion in the manner of this program)
(This joins CRST and IRIT by case and aggregates CRST hours by IRIT's vkey
This is different from earlier programs only in that VILT was being used.
Upon USCG (Dr. Hantzes) recommendation (June meeting), IRIT is used instead)
{drop table crst_temp0}
select
  irit.vkey iritvkey,
  count(*) numcases,sum(hr_hull) hull_hr,sum(hr_mach) mach_hr,
  sum(hr_train) train_hr, sum(hr_extra) extra_hr,sum(hr_textra) textra_hr,
  sum(hr_admin) admin_hr, sum(hr_travel) travel_hr,sum(hr_ttravel) ttravel_hr,
  sum(hr_other) other_hr,
  sum(irit.num_def) num_def,
  sum(irit.dinit) iritinit,sum(irit.dcert) iritcert,
  sum(irit.dreinsp) iritreinsp,sum(irit.dcoc) iritcoc,sum(irit.dhull) irithull.
  sum(irit.dother) iritother, sum(irit.dadmin) iritadmin,
  sum(crst.dannual) crstannual, sum(crst.dreinsp) crstreinsp,
  sum(crst.dadmin) crstadmin,sum(crst.dhull) crsthull,sum(crst.dcoc) crstcoc,
  sum(crst.dconstr) crstconstr,sum(crst.dcert) crstcert,
  sum(crst.dinit) crstinit,sum(crst.dmach) crstmach,sum(crst.ddeficit) crstdef,
  sum(crst.dother) crstother,sum(crst.drest) crstrest
from crst, irit
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
with other years e.g. 90, 88 as well).}
where
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_temp0;
select count(*) countcrst_temp0
from crst_temp0;
```

```
MIINSP2.SQL
(This file joins CRST_TEMPO (agg hours by vkey) to VIDT to identify the flag:
 service, flag, reg_gt, bld_yr, route.}
{drop table vidtcrst;}
select
  crst_temp0.*,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from crst_temp0, vidt
where
  crst_temp0.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vidtcrst;
select count(*)
from vidtcrst;
```

MIINSP3.SQL

(Check to see if numbers make sense)

select iritvkey,hull_hr,mach_hr,admin_hr,reg_gt
from persinsp
order by hull_hr;

MIPERS1.SQL

```
(Be sure to run MIINSP1 and MIINSP2 before these two progs)
(No incident date. But since MINMOD, post-1991(few 91s mostly 92,93))
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey,deaths,missing,injured,incident_dt
from cirt, civt, vidt
{Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey)
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
  or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
    vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
(This set of statements selects non-duplicate rows in civt_dup. If group
by just civtvkey, incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey, incident_dt, deaths, missing, injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
gives the number of unique incident dates associated with that vessel)
select civtvkey, sum(deaths) deaths, sum(missing) missing,
 sum(injured) injured, count(unique incident_dt) numdates
```

from civt_nodups
group by civtvkey
order by deaths desc, injured desc, numdates desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}

```
MIPERS2.SQL
{drop table persinsp;}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey
into temp persinsp;
select unique iritvkey
from persinsp
into temp junk0;
select count(*) chekpersinsp
from junk0;
drop table junk0;
{Count number of casualty vkeys that Are in vidtcrst}
select count(*) vidtcrst_keep
from persinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/mi.pers" delimiter ","
select *
from persinsp;
{print this out to see the variable names and format for use in ATOG cmd file}
output to /users/gawande/mipers.out
select *
from persinsp
where reg_gt>100000;
```

```
(Be sure to run MIINSP1 and MIINSP2 before these two progs)
{ Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, incident_dt
from cirt, civt, vidt
(Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique)}
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
  civt.flag="US" and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
(To select Only BAD cases, unblock this statement)
 (severity in ("MAJOR", "POTENT", "MEDIUM") and)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup.
by just civtvkey, incident_dt, get almost same rows as this}
select * from civt_dups
group by civtvkey, incident_dt
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
```

MIPOLL1.SQL

gives the number of unique incident dates associated with that vessel) select civtvkey, count(*) poll_incids from civt_nodups group by civtvkey order by poll_incids desc into temp cirt_civt0; select count(*) num_cirtcivt0 from cirt_civt0; (drop table cirt_civt0;)

```
MIPOLL2.SQL
{drop table pollinsp;}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey
into temp pollinsp;
(count number of unique inspection vkeys in final data set)
select unique iritvkey
from pollinsp
into temp junk0;
select count(*) chekpollinsp
from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtorst)
select count(*) vidtcrst_keep
from pollinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/mi.pollall" delimiter ","
select *
from pollinsp;
{print this out to see the variable names and format for use in ATOG cmd file}
output to /users/gawande/mipollall.out
select *
from pollinsp
where reg_gt>100000;
```

```
MID3139.SQL
```

select

irit.vkey d31vkey, count(*) d31cases,

sum(irit.num_def) d31_ndef,

```
{MI Cases}
{This program After resolution of Level III activity discrimination problem
Use of Peggy's mapping, but proportion the hours equally wherever one CRST
activity type maps into more than one Level III activity. See also readme.doc
file. The way this is accomplished is by using, instead of dummies in d3x variables, we use fractions to proportion the hours.)
(Another modif to old file is that numd3x is deleted since no longer have
dummies from Mike but have the fraction that proportions the hours in the
1-to-many mapping cases. Instead, the number of cases in "d3xcases" serves
the same purpose)
(Level III activities. This is a long run. Each of the 9 activities
have associated with them hull, machinery, and admin hours. So there
are 9 separate crst_temp0 runs. They are then joined into one file comprising these 3 inspections for each of the 9 activities. This broad
file is then joined with casualty data to get the data set for Level III
analysis)
{This is Not a duration analysis, just Poisson/Probit/Regression analysis}
{1. Fill in for d3x in 3 places appropriately, to change Level III activity}
(For the hours of inspection equation have (i) num_def from IRIT and
 (ii) indicators for inspection types for other CRST inspections}
(First we make a "vkey file" which is the base file with a full list
 of vkeys (relevant to us) to use for joining the 9 crst files for
 Level III activities: 31-39}
{vkey file}
select
  irit.vkey iritvkey
from irit, crst
where
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_vkey;
select count(*) count_crstvkey
from crst_vkey;
(Now there are 9 hours of inspection files, one for each Level III
 activity, 31-39.
{d31}
```

sum(hr_hull*d31) d31hhr,sum(hr_mach*d31) d31mhr,sum(hr_admin*d31) d31ahr,

```
{CRST types of inspections: only Major ones to show these Level III activities
  are a sub-part of these)
   sum(crst.dannual) d31ann, sum(crst.dreinsp) d31re, sum(crst.dadmin) d31ad,
   sum(crst.dhull) d31h, sum(crst.dconstr) d31con,sum(crst.dcert) d31coi,
   sum(crst.dinit) d31ini
 from crst, irit
 (Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).}
 (Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
       (since considering activity III.x (fill in x appropriately))
      crst.d31>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI"
      crst.case[3,4]>="89" and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d31;
select count(*) countcrst_d31
from crst_d31;
{d32}
select
  irit.vkey d32vkey, count(*) d32cases,
  sum(hr_hull*d32) d32hhr,sum(hr_mach*d32) d32mhr,sum(hr_admin*d32) d32ahr,
  sum(irit.num_def) d32_ndef,
(CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d32ann, sum(crst.dreinsp) d32re, sum(crst.dadmin) d32ad,
  sum(crst.dhull) d32h, sum(crst.dconstr) d32con,sum(crst.dcert) d32coi,
  sum(crst.dinit) d32ini
from crst, irit
{Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).)
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      (since considering activity III.x (fill in x appropriately))
      crst.d32>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d32;
```

```
select count(*) countcrst_d32
from crst_d32;
{d33}
select
  irit.vkey d33vkey, count(*) d33cases,
  sum(hr_hull*d33) d33hhr,sum(hr_mach*d33) d33mhr,sum(hr_admin*d33) d33ahr,
  sum(irit.num_def) d33_ndef,
(CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d33ann, sum(crst.dreinsp) d33re, sum(crst.dadmin) d33ad,
  sum(crst.dhull) d33h, sum(crst.dconstr) d33con,sum(crst.dcert) d33coi,
  sum(crst.dinit) d33ini
from crst, irit
{Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).}
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91}
where
      (since considering activity III.x (fill in x appropriately))
      crst.d33>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d33;
select count(*) countcrst_d33
from crst_d33;
{d34}
select
  irit.vkey d34vkey, count(*) d34cases,
  sum(hr_hull*d34) d34hhr,sum(hr_mach*d34) d34mhr,sum(hr_admin*d34) d34ahr.
  sum(irit.num_def) d34_ndef,
(CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d34ann, sum(crst.dreinsp) d34re, sum(crst.dadmin) d34ad,
  sum(crst.dhull) d34h, sum(crst.dconstr) d34con,sum(crst.dcert) d34coi,
  sum(crst.dinit) d34ini
from crst, irit
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).)
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      {since considering activity III.x (fill in x appropriately)}
```

```
crst.d34>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>="89" and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d34;
select count(*) countcrst_d34
from crst_d34;
{d35}
select
  irit.vkey d35vkey, count(*) d35cases,
  sum(hr_hull*d35) d35hhr,sum(hr_mach*d35) d35mhr,sum(hr_admin*d35) d35ahr,
  sum(irit.num_def) d35_ndef,
(CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d35ann, sum(crst.dreinsp) d35re, sum(crst.dadmin) d35ad,
  sum(crst.dhull) d35h, sum(crst.dconstr) d35con,sum(crst.dcert) d35coi,
  sum(crst.dinit) d35ini
from crst, irit
{Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
with other years e.g. 90, 88 as well).
{Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      (since considering activity III.x (fill in x appropriately))
      crst.d35>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2] = VN and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d35;
select count(*) countcrst_d35
from crst_d35;
{d36}
select
  irit.vkey d36vkey, count(*) d36cases,
  sum(hr_hull*d36) d36hhr,sum(hr_mach*d36) d36mhr,sum(hr_admin*d36) d36ahr,
  sum(irit.num_def) d36_ndef,
{CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d36ann, sum(crst.dreinsp) d36re, sum(crst.dadmin) d36ad,
  sum(crst.dhull) d36h, sum(crst.dconstr) d36con,sum(crst.dcert) d36coi,
  sum(crst.dinit) d36ini
```

```
from crst, irit
                                                                         Cathan
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).)
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      {since considering activity III.x (fill in x appropriately)}
      crst.d36>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d36;
select count(*) countcrst_d36
from crst_d36;
{d37}
select
  irit.vkey d37vkey, count(*) d37cases,
  sum(hr_hull*d37) d37hhr,sum(hr_mach*d37) d37mhr,sum(hr_admin*d37) d37ahr,
  sum(irit.num_def) d37_ndef,
(CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these}
  sum(crst.dannual) d37ann, sum(crst.dreinsp) d37re, sum(crst.dadmin) d37ad,
  sum(crst.dhull) d37h, sum(crst.dconstr) d37con,sum(crst.dcert) d37coi,
  sum(crst.dinit) d37ini
from crst, irit
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).}
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      {since considering activity III.x (fill in x appropriately)}
      crst.d37>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>="89" and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d37;
select count(*) countcrst_d37
from crst_d37;
```

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```
{d38}
select
  irit.vkey d38vkey, count(*) d38cases,
  sum(hr_hull*d38) d38hhr,sum(hr_mach*d38) d38mhr,sum(hr_admin*d38) d38ahr,
  sum(irit.num_def) d38_ndef,
{CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these)
  sum(crst.dannual) d38ann, sum(crst.dreinsp) d38re, sum(crst.dadmin) d38ad,
  sum(crst.dhull) d38h, sum(crst.dconstr) d38con,sum(crst.dcert) d38coi,
  sum(crst.dinit) d38ini
from crst, irit
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
 with other years e.g. 90, 88 as well).)
(Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      (since considering activity III.x (fill in x appropriately))
      crst.d38>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      crst.case[3,4]>="89" and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d38;
select count(*) countcrst_d38
from crst d38:
{d39}
select
  irit.vkey d39vkey, count(*) d39cases,
  sum(hr_hull*d39) d39hhr,sum(hr_mach*d39) d39mhr,sum(hr_admin*d39) d39ahr,
  sum(irit.num_def) d39_ndef,
{CRST types of inspections: only Major ones to show these Level III activities
 are a sub-part of these}
  sum(crst.dannual) d39ann, sum(crst.dreinsp) d39re, sum(crst.dadmin) d39ad,
  sum(crst.dhull) d39h, sum(crst.dconstr) d39con,sum(crst.dcert) d39coi,
  sum(crst.dinit) d39ini
from crst, irit
(Note the date >= 89. This is since only post-91 casualties are being
 considered. Hence choose a year with which I am comfortable (years to
 failure is not badly measured so that it affects the results. can try
with other years e.g. 90, 88 as well).} {Important Note: If the analysis is by vkey And iritdate, then Only
 consider inspections after 1/91)
where
      (since considering activity III.x (fill in x appropriately))
      crst.d39>0 and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
```

```
crst.case[1,2]="MI" and
      crst.case[3,4]>=*89* and
      crst.case=irit.micase
group by irit.vkey
into temp crst_d39;
select count(*) countcrst_d39
from crst_d39;
{ *****************************
      Join the 9 crst_d3x files into a big file: crst_temp0
select crst_vkey.iritvkey,
crst_d31.*,crst_d32.*,crst_d33.*,crst_d34.*,crst_d35.*,crst_d36.*,
crst_d37.*,crst_d38.*,crst_d39.*
           crst_vkey,Outer crst_d31,Outer crst_d32,Outer crst_d33,
      Outer crst_d34,Outer crst_d35,Outer crst_d36,
      Outer crst_d37,Outer crst_d38,Outer crst_d39
where
            crst_vkey.iritvkey=crst_d31.d31vkey and
      crst_vkey.iritvkey=crst_d32.d32vkey and
      crst_vkey.iritvkey=crst_d33.d33vkey and
      crst_vkey.iritvkey=crst_d34.d34vkey and
crst_vkey.iritvkey=crst_d35.d35vkey and
crst_vkey.iritvkey=crst_d36.d36vkey and
      crst_vkey.iritvkey=crst_d37.d37vkey and
      crst_vkey.iritvkey=crst_d38.d38vkey and
      crst_vkey.iritvkey=crst_d39.d39vkey
into temp crst_temp0;
*********************
Join the Inspections file (big one) with vessel characteristics in VIDT
             **********
(This file joins CRST_TEMP0 (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.}
(drop table vidtcrst;)
select
  crst_temp0.*,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from crst_temp0, vidt
where
  crst_temp0.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vidtcrst;
select count(*) num_vidtcrst
```

```
from vidtcrst:
            Personnel Casualties: Construct cirt_civt0, join with
            Inspections, and unload to disk
(No incident date. But since MINMOD, post-1991(few 91s mostly 92,93))
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey,deaths,missing,injured,incident_dt
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey)
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. If group
by just civtvkey, incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey,incident_dt, deaths,missing,injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
```

```
(group by vkey to attach to the inspections file. Note that numdates now
 gives the number of unique incident dates associated with that vessel}
select civtvkey, sum(deaths) deaths, sum(missing) missing,
  sum(injured) injured, count(unique incident_dt) numdates
from civt_nodups
group by civtvkey
order by deaths desc, injured desc, numdates desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
{drop table persinsp;}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey
into temp persinsp;
select unique iritvkey
from persinsp
into temp junk0;
select count(*) chekpersinsp
from junk0;
drop table junk0;
{Count number of casualty vkeys that Are in vidtcrst}
select count(*) vidtcrst_keep
from persinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/mi_d3139.pers" delimiter ","
select *
from persinsp;
            count(*) numrows, sum(d31hhr) d31hhr, sum(d31mhr) d31mhr,
      sum(d31ahr) d31ahr
from persinsp;
            count(*) numrows, sum(d39hhr) d39hhr, sum(d39mhr) d39mhr,
      sum(d39ahr) d39ahr
from persinsp;
{print this out for var names to an output file since need also to print for
pollution data set)
output to /users2/gawande/mid3139_pers.out
select *
from persinsp
where reg_gt>100000;
                     ****************
            Pollution Casualties: Construct cirt_civt0, join with
            Inspections, and unload to disk
( Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
```

```
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
 civt.vkey civtvkey, incident_dt
from cirt, civt, vidt
(Note that using VIDT for the reg_gt>100 info and hence need Unique in select
statement since in CIVT, the vkey is not unique (in VIDT vkey is unique))
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
  civt.flag="US" and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
lecit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
(To select Only BAD cases, unblock this statement)
 {severity in ("MAJOR", "POTENT", "MEDIUM") and}
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
    vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup.
by just civtvkey, incident_dt, get almost same rows as this}
select * from civt_dups
group by civtvkey, incident_dt
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
gives the number of unique incident dates associated with that vessel)
select civtvkey, count(*) poll_incids
from civt_nodups
group by civtvkey
order by poll_incids desc
```

```
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
(drop table cirt_civt0;)
{drop table pollinsp;}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey
into temp pollinsp;
(count number of unique inspection vkeys in final data set)
select unique iritvkey
from pollinsp
into temp junk0;
select count(*) chekpollinsp
from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtorst)
select count(*) vidtcrst_keep
from pollinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/mi_d3139.pollall" delimiter ","
from pollinsp;
            count(*) numrows, sum(d31hhr) d31hhr, sum(d31mhr) d31mhr,
      sum(d31ahr) d31ahr
from pollinsp;
            count(*) numrows, sum(d39hhr) d39hhr, sum(d39mhr) d39mhr,
select
      sum(d39ahr) d39ahr
from pollinsp;
{print this out for var names to an output file }
output to /users2/gawande/mid3139_poll.out
select *
from pollinsp
where reg_gt>100000;
```

```
PSINSP1.SQL
{This joins BRST and AVST by case and aggregates BRST hours by AVST's vkey}
{drop table brst_temp0}
 avst.vkey avstvkey,
 count(*) numcases,sum(hr_reg) reg_hr,sum(hr_res) res_hr,
 sum(hr_boat) boat_hr, sum(hr_air) air_hr,
 sum(hr_regadmin) admin_hr,sum(hr_regtvl) travel_hr,
 sum(hr_other) other_hr,
 sum(num_def) avst_def,sum(num_act) avst_act,
(Level II and III Dummies from Mike based on Peggy Thurber's mapping
Here only II.B activities since only PS activities)
 sum(d2b1) numd2b1,sum(d2b2) numd2b2,sum(d2b3) numd2b3,
(Note that 35, 36, and 38 for US Flag only needed, but am including it here)
 sum(d39) numd39
from brst, avst
{Note the date >= 89. This is since only post-91 casualties are being
considered. Hence choose a year with which I am comfortable (years to
failure is not badly measured so that it affects the results. can try
with other years e.g. 90, 88 as well).}
where
     brst.pscase[3,4] >= 89 and
     brst.pscase=avst.pscase
group by avst.vkey
into temp brst_temp0;
select count(*) countbrst_temp0
from brst_temp0;
```

```
PSINSP2.SOL
(This file joins BRST_TEMP0 (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.}
{drop table vidtbrst;}
select
  brst_temp0.*,
  vidt.service vidtservice, vidt.flag vidtflag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from brst_temp0, vidt
where
  brst_temp0.avstvkey=vidt.vkey and
  (vidt.flag="US" and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100) ) )
  (vidt.flag not in (*US*) and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP" ) )
into temp vidtbrst;
select count(*)
from vidtbrst;
```

PSPERS1.SQL

```
(Be sure to run PSINSP1 and PSINSP2 before these two progs)
(No incident date. But since MINMOD, post-1991(few 91s mostly 92,93))
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records}
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, deaths, missing, injured, incident_dt
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey}
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. If group
by just civtvkey,incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey,incident_dt, deaths,missing,injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
 gives the number of unique incident dates associated with that vessel)
select civtvkey, sum(deaths) deaths, sum(missing) missing,
  sum(injured) injured, count(unique incident_dt) numdates
```

from civt_nodups
group by civtvkey
order by deaths desc, injured desc, numdates desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}

```
PSPERS2.SQL
(drop table persinsp;)
select unique vidtbrst.*, cirt_civt0.*
from vidtbrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtbrst.avstvkey
into temp persinsp;
select unique avstvkey
from persinsp
into temp junk0;
select count(*) chekpersinsp
from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtbrst)
select count(*) vidtbrst_keep
from persinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/ps.pers" delimiter ","
select *
from persinsp;
(print this out for var names to an output file)
output to /users/gawande/pspers.out
select *
from persinsp
where reg_gt>100000;
```

PSPERS3.SQL

{Check to see if numbers make sense}
select count(*), avg(avst_def) avg_avstdef,sum(avst_def) sum_avstdef,
avg(avst_act) avg_avstact, sum(avst_act) sum_avstact,
avg(numcases) avg_numcases, sum(numcases) sum_numcases
from persinsp

PSPOLL1.SQL

```
(US and Foreign flag casualties. Deep draft but includes Passenger<100)
(Be sure to run PSINSP1 and PSINSP2 before these two progs)
{ Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, incident_dt
from cirt, civt, vidt
{Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique)}
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
(Jim Law: converstion on July 14, 1994. The following query contracts CIRT to cases that are correct (drop mystery and inconsequential \frac{1}{2}
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. )
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
{To select Only BAD cases, unblock this statement}
 (severity in ("MAJOR", "POTENT", "MEDIUM") and)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   civt.service="PASSENGER" or civt.service="PASSENGER SHIP")
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup.
by just civtvkey, incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey, incident_dt
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
```

(group by vkey to attach to the inspections file. Note that numdates now
 gives the number of unique incident dates associated with that vessel)
select civtvkey, count(*) poll_incids
from civt_nodups
group by civtvkey
order by poll_incids desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
(drop table cirt_civt0;)

```
PSPOLL2.SQL
{drop table pollinsp;}
select unique vidtbrst.*, cirt_civt0.*
from vidtbrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtbrst.avstvkey
into temp pollinsp;
{count number of unique inspection vkeys in final data set}
select unique avstvkey
from pollinsp
into temp junk0;
select count(*) chekpollinsp
from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtcrst)
select count(*) vidtbrst_keep
from pollinsp
where civtvkey is not null;
unload to "/nfs/ttd32/optical/50b/trix.dat/ps.pollall" delimiter ","
select *
from pollinsp;
{print this out for var names to an output file}
output to /users/gawande/pspollall.out
select *
from pollinsp
where reg_gt>100000;
```

PROGRAMS FOR DURATION DATA SETS

DUR_A1.SQL

{MI Cases}

{After conversation with Wyman Briggs on 18 July, 1994: Use IRIT indicators for inspection types for Level II.A.1-3 activities, and use Peggy Thurber's mapping (grouped by Mike into d31-d39 indicators) for Level III activities)

- Change inspection from IRIT appropriately: cert_inspect for COI, reinspect for Reinspection, and hull for hull exam.
- 2. Change the Unload to file else WILL WRITE OVER)

(Only post 1991 (incl) inspections since duration since last inspection to casualty, and first casualty in Minmod is 02/91}

Duration data: The idea is as follows. The lhs variable is duration from the Last inspection till date of casualty. Analysis will be by Level II activities: (i) 3 MI activities: COI, Annual Vessel Reinspection, Hull Exam, and (ii) 3 PS activities: Annual Foreign Freight Exam, Annual Foreign Tanker Vessel Exam, Annual Foreign Passenger. The same vessel inspected (using same activity) twice is treated as two different vessels, and as two observations (i.e. Hence large data set.) If the vessel has no casualty after an activity, the lhs takes the value of duration till the next activity of the same type. The problem is that (a) casualty may not have anything to do with that activity. For, example pri_nature in CIRT may possess such info. This can (should?) be incorporated by attributing only those casualties to that activity. This requires that pri_nature should be mapped into Level II activities. This mapping will probably be one(pri_nature) to many(Level II activities). (b) should we be taking duration till next activity of the same type, or any activity. If we take into consideration pri_nature and ascribe only the *casualties connected with that activity* in computing the lhs variable, then we take duration till next activity of the Same type if no casualty in the meantime. Else not so easy, since casualty may be of a nature attributable to another kind of activity. Even if pri_nature used, probably not too easy, since mapping is probably one (pri_nature) to many or all (Level II activity). So problem still unanswered. Solution: We take the simple road. All casualties, not just those attributable directly to the Level II activity is considered. This is OK since anyway a large range of inspections map into a Level II activity, and Many pri_natures map into this set of inspections. Also since some vessels are subject to a Level II activity sooner than others, rather than take the duration between two inspections, in the event of No casualty we take the duration between the inspection date and 1/1/1995. The problem is that the closer the inspection to that date, the shorter the duration recorded. But mainly, it is convenient, the duration so computed does not exceed the duration where there Are casualties, and since the last inspection was in 12/1993, this simplification is not expected to qualitatively change any results.

rhs variable is still number of hours devoted to that activity etc. The main difference is the age of the vessel, which is to be computed at the time of casualty, or at the time of next inspection if no casualty.
}

{For the hours of inspection equation have (i) num_def from IRIT and (ii) indicators for inspection types for other CRST inspections}

select

irit.vkey iritvkey, irit.dt iritdate,

```
count(*) numcases,sum(hr_hull) hull_hr,sum(hr_mach) mach_hr,
   sum(hr_train) train_hr, sum(hr_extra) extra_hr, sum(hr_textra) textra_hr,
   sum(hr_admin) admin_hr, sum(hr_travel) travel_hr,sum(hr_ttravel) ttravel_hr,
   sum(hr_other) other_hr,
   sum(irit.num_def) num_def,
 (Sum of Mike's dummies (based on Peggy's mapping) gives the total of
  sub-inspections for that Level II activity on that date)
   sum(d2a1) numd2a1,sum(d2a2) numd2a2,sum(d2a3) numd2a3,
 {CRST types of inspections: indicators}
   sum(crst.dannual) crstannual, sum(crst.dreinsp) crstreinsp,
   sum(crst.dadmin) crstadmin,sum(crst.dhull) crsthull,sum(crst.dcoc) crstcoc,
   sum(crst.dconstr) crstconstr,sum(crst.dcert) crstcert,
   sum(crst.dinit) crstinit,sum(crst.dmach) crstmach,sum(crst.ddeficit) crstdef,
   sum(crst.dother) crstother,sum(crst.drest) crstrest
 from crst, irit
 {Since first casualty case is 02/91 and duration is from last inspection, only
  inspections after 1991 are considered. This is unlike the Poisson stuff where
  inspections after 1989 are considered)
where
       {activity II.A.1=COI}
       irit.cert_inspect="X" and
       irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      (since first casualty case is 02/91 and duration is from last inspec)
      crst.case[3,4]>=*91* and
      crst.case=irit.micase
group by irit.vkey, irit.dt
into temp crst_temp0;
select count(*) countcrst_temp0
from crst_temp0;
(This file joins CRST_TEMP0 (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.}
{drop table vidtcrst;}
select
  crst_temp0.*,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from crst_temp0, vidt
where
  crst_temp0.iritvkey=vidt.vkey and
 vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
 vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
 vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
  ) and
 vidt.flag="US"
into temp vidtcrst;
```

```
select count(*)
from vidtcrst;
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey,deaths,missing,injured,cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey)
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
    vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. If group
by just civtvkey,incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey, cirtdate, deaths, missing, injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
gives the number of unique incident dates associated with that vessel}
```

```
civtvkey, cirtdate,
      sum(deaths) deaths,sum(missing) missing,sum(injured) injured
from civt_nodups
group by civtvkey, cirtdate
order by deaths desc, injured desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
(Here we do the last part: join inspection and casualty tables, and Unload
 2 Personnel casualty files (one for M/Y and one for just Y))
drop table persinsp;
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
{I.
      Join hours and casualties.
 vidtcrst sorted by iritvkey, iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
(This first set of statements for making persinsp and checking)
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidtcrst.iritdate
into temp persinsp;
select count(*) num_persinsp from persinsp;
(Count number of unique (iritvkey,iritdate) in persinsp)
select unique iritvkey, iritdate from persinsp into temp junk0;
select count(*) numuniq_persinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtcrst)
select count(*) vidtcrst_keep from persinsp
where civtvkey is not null;
(This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set }
select *, month(iritdate) mo,year(iritdate) ye
from vidtcrst
into temp inspect;
{By MY}
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
```

```
sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
{Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert.
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef.
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, ye
into temp inspect_Y;
(Make a table grouped Just by iritvkey for vessel characteristics)
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ,    vidt.dblbott_typ,    vidt.prop_typ,    vidt.design,    vidt.hull_mat
from justvkey, vidt
where
 justvkey.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vesschar;
```

```
select count(*) num_vesschar from vesschar;
(The following comments apply to when I was using Peggy's mapping for
Level II activities. But since we are now using IRIT indicators are these
 comments still applicable? We'll find out, if there is a big difference
between the M/Y and the just Y file size)
{II. Here we compute Duration, and get rid of duplicate values.
We Group by Month/Year of IRIT inspection. This is since several Level II
activities may be grouped in a bunch but on several different days. We
would like to count this bunch only once. There is still an approximation
since bunch may overlap between two months. Can't prevent this in SQL
Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
{Note: for inspections with no casualty, duration=(1/1/95 - iritdate)}
{Data set 1: Group by Month/Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
select
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from persinsp
into temp dur1;
select iritvkey,mo,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, mo,ye
order by iritvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
           inspect_MY.*, mindur_cas, dur_nocas,
select
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
            inspect_MY.iritvkey=dur2.iritvkey and
where
      inspect_MY.iritvkey=vesschar.iritvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by iritvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2al_my.pers" delimiter ","
select *
from dur3;
{Check the aggregation}
                                   sum(hull_hr) tot_hull_hr,
            count(*)
                                                                  sum(mach_hr)
                       numrows,
select
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
```

```
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, (*1/1/95*-iritdate) dur_nocas
from persinsp
into temp durl;
select iritvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
select
            inspect_Y.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
            inspect_Y.iritvkey=dur2.iritvkey and
where
      inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2
                                   from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2al_y.pers" delimiter ","
select *
from dur3;
select
            count(*)
                       numrows,
                                   sum(hull_hr)
                                                tot_hull_hr,
                                                                  sum(mach_hr)
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1, sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
pollution data set)
output to /users/gawande/dur_al_pers.out
select *
from dur3
where reg_gt>100000;
{****************************Pollution Casualties***********************
```

```
(Be sure to run MIDUR1 and MIDUR2 before these two progs)
( Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique)}
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
(Jim Law: converstion on July 14, 1994. The following query contracts CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
(Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
(To select Only BAD cases, unblock this statement)
 (severity in ("MAJOR", "POTENT", "MEDIUM") and)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. Although
 this is an approximation of duplicates, its not a bad one. Can't really
```

```
check for the pollution cases since mostly number of cases is 1)
select * from civt_dups
group by civtvkey, cirtdate
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that poll_incids now
 gives the number of unique incident dates associated with that vessel on
 a cirtdate, and hence is probably always equal to 1.
 Actually poll_incids is superfluous and never used in the duration file anyway)
select civtvkey, cirtdate, count(*) poll_incids
from civt_nodups
group by civtvkey, cirtdate
order by poll_incids desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
(Here we do the last part: join inspection and casualty tables, and Unload
 2 Pollution casualty files (one for M/Y and one for just Y) }
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
 vidtcrst sorted by iritvkey, iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches}
{This first set of statements for making pollinsp and checking}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidtcrst.iritdate
into temp pollinsp;
select count(*) num_pollinsp from pollinsp;
(Count number of unique (iritvkey, iritdate) in pollinsp)
select unique iritvkey, iritdate from pollinsp into temp junk0;
select count(*) numuniq pollinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtorst)
select count(*) vidtcrst_keep from pollinsp
where civtvkey is not null;
{This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set)
```

```
select *, month(iritdate) mo,year(iritdate) ye
from vidtcrst
into temp inspect;
(By MY)
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities)
  sum(numd2a1) numd2a1, sum(numd2a2) numd2a2, sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities)
  sum(numd2a1) numd2a1, sum(numd2a2) numd2a2, sum(numd2a3) numd2a3,
(CRST types of inspections: indicators)
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, ye
into temp inspect_Y;
{Make a table grouped Just by iritvkey for vessel characteristics}
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
 year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
```

```
justvkey.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
  ) and
  vidt.flag="US"
into temp vesschar;
select count(*) num_vesschar from vesschar;
(II. Here we compute Duration, and get rid of duplicate values.
 We Group by Month/Year of IRIT inspection. This is since several Level II
 activities may be grouped in a bunch but on several different days. We
 would like to count this bunch only once. There is still an approximation
 since bunch may overlap between two months. Can't prevent this in SOL
 Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
{Note: for inspections with no casualty, duration=(1/1/95 - iritdate)}
{Data set 1: Group by Month/Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
select
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from pollinsp
into temp durl;
select iritvkey, mo, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
from durl
group by iritvkey, mo,ye
order by iritvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
            inspect_MY.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
            inspect_MY.iritvkey=dur2.iritvkey and
      inspect_MY.iritvkey=vesschar.iritvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by iritvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a1_my.pollall" delimiter "."
select *
from dur3;
{Check the aggregation}
select
           count(*)
                      numrows,
                                  sum(hull_hr) tot_hull_hr,
                                                                 sum (mach_hr)
```

```
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2.
      sum(numd2a3) numd2a3
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
            iritvkey, month(iritdate) mo,year(iritdate) ye,
select
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from pollinsp
into temp durl;
select iritvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
            inspect_Y.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
            inspect_Y.iritvkey=dur2.iritvkey and
where
      inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a1_y.pollall" delimiter ","
select *
from dur3;
select
                                   sum(hull_hr)
            count(*)
                       numrows,
                                                  tot_hull_hr,
                                                                  sum(mach_hr)
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
pollution data set}
output to /users/gawande/dur_al_poll.out
select *
from dur3
where reg_gt>100000;
```

DUR A2.SQL

(MI Cases)

(After conversation with Wyman Briggs on 18 July, 1994: Use IRIT indicators for inspection types for Level II.A.1-3 activities, and use Peggy Thurber's mapping (grouped by Mike into d31-d39 indicators) for Level III activities)

- Change inspection from IRIT appropriately: cert_inspect for COI, reinspect for Reinspection, and hull for hull exam.
- 2. Change the Unload to file else WILL WRITE OVER)

(Only post 1991 (incl) inspections since duration since last inspection to casualty, and first casualty in Minmod is 02/91}

Duration data: The idea is as follows. The lhs variable is duration from the Last inspection till date of casualty. Analysis will be by Level II activities: (i) 3 MI activities: COI, Annual Vessel Reinspection, Hull Exam, and (ii) 3 PS activities: Annual Foreign Freight Exam, Annual Foreign Tanker Vessel Exam, Annual Foreign Passenger. The same vessel inspected (using same activity) twice is treated as two different vessels, and as two observations (i.e. Hence large data set.) If the vessel has no casualty after an activity, the lhs takes the value of duration till the next activity of the same type. The problem is that (a) casualty may not have anything to do with that activity. For, example pri_nature in CIRT may possess such info. This can (should?) be incorporated by attributing only those casualties to that activity. This requires that pri_nature should be mapped into Level II activities. This mapping will probably be one (pri_nature) to many (Level II activities). (b) should we be taking duration till next activity of the same type, or any activity. If we take into consideration pri_nature and ascribe only the *casualties connected with that activity* in computing the lhs variable, then we take duration till next activity of the Same type if no casualty in the meantime. Else not so easy, since casualty may be of a nature attributable to another kind of activity. Even if pri_nature used, probably not too easy, since mapping is probably one (pri_nature) to many or all (Level II activity). So problem still unanswered. Solution: We take the simple road. All casualties, not just those attributable directly to the Level II activity is considered. This is OK since anyway a large range of inspections map into a Level II activity, and Many pri_natures map into this set of inspections. Also since some vessels are subject to a Level II activity sooner than others, rather than take the duration between two inspections, in the event of No casualty we take the duration between the inspection date and 1/1/1995. The problem is that the closer the inspection to that date, the shorter the duration recorded. mainly, it is convenient, the duration so computed does not exceed the duration where there Are casualties, and since the last inspection was in 12/1993, this simplification is not expected to qualitatively change any results.

rhs variable is still number of hours devoted to that activity etc. The main difference is the age of the vessel, which is to be computed at the time of casualty, or at the time of next inspection if no casualty.

{For the hours of inspection equation have (i) num_def from IRIT and
 (ii) indicators for inspection types for other CRST inspections}

select

irit.vkey iritvkey, irit.dt iritdate,

```
count(*) numcases,sum(hr_hull) hull_hr,sum(hr_mach) mach_hr,
  sum(hr_train) train_hr, sum(hr_extra) extra_hr,sum(hr_textra) textra_hr,
  sum(hr_admin) admin_hr, sum(hr_travel) travel_hr,sum(hr_ttravel) ttravel_hr,
  sum(hr_other) other_hr,
  sum(irit.num_def) num_def,
(Sum of Mike's dummies (based on Peggy's mapping) gives the total of
 sub-inspections for that Level II activity on that date)
  sum(d2a1) numd2a1,sum(d2a2) numd2a2,sum(d2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crst.dannual) crstannual, sum(crst.dreinsp) crstreinsp,
  sum(crst.dadmin) crstadmin,sum(crst.dhull) crsthull,sum(crst.dcoc) crstcoc,
  sum(crst.dconstr) crstconstr,sum(crst.dcert) crstcert,
  sum(crst.dinit) crstinit,sum(crst.dmach) crstmach,sum(crst.ddeficit) crstdef,
  sum(crst.dother) crstother,sum(crst.drest) crstrest
from crst, irit
(Since first casualty case is 02/91 and duration is from last inspection, only
 inspections after 1991 are considered. This is unlike the Poisson stuff where
 inspections after 1989 are considered)
where
      {activity II.A.2=Reinspection}
      irit.reinspect="X" and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
      crst.case[1,2]="MI" and
      (since first casualty case is 02/91 and duration is from last inspec)
      crst.case[3,4]>="91" and
      crst.case=irit.micase
group by irit.vkey, irit.dt
into temp crst_temp0;
select count(*) countcrst_temp0
from crst_temp0;
(This file joins CRST_TEMP0 (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.}
{drop table vidtcrst;}
select
  crst_temp0.*,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from crst_temp0, vidt
where
  crst_temp0.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vidtcrst;
```

```
select count(*)
from vidtcrst;
( Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey,deaths,missing,injured,cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey)
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup.
by just civtvkey, incident_dt, get almost same rows as this)
select * from civt_dups
group by civtvkey, cirtdate, deaths, missing, injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
gives the number of unique incident dates associated with that vessel)
```

```
civtvkey, cirtdate,
      sum(deaths) deaths, sum(missing) missing, sum(injured) injured
from civt_nodups
group by civtvkey, cirtdate
order by deaths desc, injured desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
(Here we do the last part: join inspection and casualty tables, and Unload
 2 Personnel casualty files (one for M/Y and one for just Y)}
drop table persinsp;
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
 vidtcrst sorted by iritvkey,iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
{This first set of statements for making persinsp and checking}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidtcrst.iritdate
into temp persinsp;
select count(*) num_persinsp from persinsp;
(Count number of unique (iritvkey, iritdate) in persinsp)
select unique iritvkey, iritdate from persinsp into temp junk0;
select count(*) numuniq_persinsp from junk0;
drop table junk0;
{Count number of casualty vkeys that Are in vidtcrst}
select count(*) vidtcrst_keep from persinsp
where civtvkey is not null;
{This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set }
select *, month(iritdate) mo,year(iritdate) ye
from vidtcrst
into temp inspect;
(By MY)
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
```

```
sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities)
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
(CRST types of inspections: indicators)
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey,ye
into temp inspect_Y;
(Make a table grouped Just by iritvkey for vessel characteristics)
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
 justvkey.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vesschar;
```

```
select count(*) num_vesschar from vesschar;
{The following comments apply to when I was using Peggy's mapping for
Level II activities. But since we are now using IRIT indicators are these
comments still applicable? We'll find out, if there is a big difference
between the M/Y and the just Y file size)
{II. Here we compute Duration, and get rid of duplicate values.
We Group by Month/Year of IRIT inspection. This is since several Level II
activities may be grouped in a bunch but on several different days. We
would like to count this bunch only once. There is still an approximation
since bunch may overlap between two months. Can't prevent this in SQL
Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
{Note: for inspections with no casualty, duration=(1/1/95 - iritdate)}
{Data set 1: Group by Month/Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from persinsp
into temp dur1;
select iritvkey, mo, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
from dur1
group by iritvkey, mo,ye
order by iritvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
            inspect_MY.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
            inspect_MY.iritvkey=dur2.iritvkey and
      inspect_MY.iritvkey=vesschar.iritvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by iritvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to */nfs/ttd32/optical/50b/trix.dat/dur_2a2_my.pers* delimiter *,*
select *
from dur3;
(Check the aggregation)
                                 sum(hull_hr) tot_hull_hr,
                                                                  sum(mach_hr)
            count(*)
                       numrows,
select
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum (numd2a3) numd2a3
```

```
from dur3;
drop table dur1;
dro table dur2;
drop table dur3;
(Data set 2: Group by just Year)
select
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, (*1/1/95*-iritdate) dur_nocas
from persinsp
into temp dur1;
select iritvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
select
           inspect_Y.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
where
           inspect_Y.iritvkey=dur2.iritvkey and
      inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a2_y.pers" delimiter ","
select *
from dur3;
select
           count(*)
                      numrows,
                                 sum(hull_hr) tot_hull_hr,
                                                               sum (mach_hr)
tot_mach_hr,
     sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1, sum(numd2a2) numd2a2,
     sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
pollution data set}
output to /users/gawande/dur_a2_pers.out
select *
from dur3
where reg_gt>100000;
```

```
(Be sure to run MIDUR1 and MIDUR2 before these two progs)
{ Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records}
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, cirt.incident_dt cirtdate
from cirt, civt, vidt
{Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique)}
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
{To select Only BAD cases, unblock this statement}
 (severity in ("MAJOR", "POTENT", "MEDIUM") and)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
    vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. Although
this is an approximation of duplicates, its not a bad one. Can't really
```

```
check for the pollution cases since mostly number of cases is 1)
select * from civt_dups
group by civtvkey, cirtdate
 into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
 {group by vkey to attach to the inspections file. Note that poll_incids now
 gives the number of unique incident dates associated with that vessel on
 a cirtdate, and hence is probably always equal to 1.
 Actually poll_incids is superfluous and never used in the duration file anyway)
select civtvkey, cirtdate, count(*) poll_incids
from civt_nodups
group by civtvkey, cirtdate
order by poll_incids desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
(drop table cirt_civt0;)
(Here we do the last part: join inspection and casualty tables, and Unload 2 Pollution casualty files (one for M/Y and one for just Y))
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
 vidtcrst sorted by iritvkey, iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
(This first set of statements for making pollinsp and checking)
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidtcrst.iritdate
into temp pollinsp;
select count(*) num_pollinsp from pollinsp;
{Count number of unique (iritvkey,iritdate) in pollinsp}
select unique iritvkey, iritdate from pollinsp into temp junk0;
select count(*) numuniq_pollinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtcrst)
select count(*) vidtcrst_keep from pollinsp
where civtvkey is not null;
(This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set)
```

```
select *, month(iritdate) mo,year(iritdate) ye
from vidtcrst
into temp inspect;
{By MY}
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities)
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
(CRST types of inspections: indicators)
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
{Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, ye
into temp inspect_Y;
(Make a table grouped Just by iritvkey for vessel characteristics)
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
```

```
justvkey.iritvkey=vidt.vkey and
    vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
    vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
    vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
       and
    vidt.flag="US"
  into temp vesschar;
  select count(*) num_vesschar from vesschar;
  (II. Here we compute Duration, and get rid of duplicate values.
   We Group by Month/Year of IRIT inspection. This is since several Level II
   activities may be grouped in a bunch but on several different days. We
   would like to count this bunch only once. There is still an approximation
   since bunch may overlap between two months. Can't prevent this in SQL
   Hence we do two data sets:
   (i) Group by Month/Year, as described above, and(ii) Group by just Year. This is a smaller data set, and is the correct one
        for Level II activities that are performed over 1 or 2 years}
(Note: for inspections with no casualty, duration=(1/1/95 - iritdate))
  {Data set 1: Group by Month/Year}
              iritvkey, month(iritdate) mo, year(iritdate) ye,
        (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
  from pollinsp
  into temp dur1;
  select iritvkey, mo, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
  from dur1
  group by iritvkey, mo, ye
  order by iritvkey, ye, mo
  into temp dur2;
  select count(*) all_rows_MY_1 from dur2;
  select * from dur2 where mindur_cas is not null into temp junk1;
  select count(*) with_casualty_MY_1 from junk1;
  drop table junk1;
  {Join duration and inspection tables}
  select
              inspect_MY.*, mindur_cas, dur_nocas,
    service , flag, reg_gt, yearbld, route,
    dblside_typ, dblbott_typ, prop_typ, design, hull_mat
  from inspect_MY, dur2, vesschar
              inspect_MY.iritvkey=dur2.iritvkey and
  where
        inspect_MY.iritvkey=vesschar.iritvkey and
        inspect_MY.mo=dur2.mo and
        inspect_MY.ye=dur2.ye
  order by iritvkey, ye, mo
  into temp dur3;
  select count(*) all_rows_Mi_2 from dur3;
  select * from dur3 where mindur_cas is not null into temp junk1;
  select count(*) with_casualty_MY_2
                                      from junk1:
  drop table junk1;
  unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a2_my.pollall" delimiter ","
  select *
  from dur3:
  {Check the aggregation}
  select
            coun': (*)
                        numrows,
                                     sum(hull_hr) tot_hull_hr,
                                                                    sum(mach_hr)
```

```
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1, sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
(Data set 2: Group by just Year)
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, (*1/1/95*-iritdate) dur_nocas
from pollinsp
into temp dur1;
select iritvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
            inspect_Y.*, mindur_cas, dur_nocas,
select
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
            inspect_Y.iritvkey=dur2.iritvkey and
      inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2
                                   from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a2_y.pollall" delimiter ","
select *
from dur3;
select
            count(*)
                       numrows,
                                   sum(hull_hr)
                                                   tot_hull_hr,
                                                                  sum(mach_hr)
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
pollution data set)
output to /users/gawande/dur_a2_poll.out
select *
from dur3
where reg_gt>100000;
```

DUR_A3.SQL

{MI Cases}

(After conversation with Wyman Briggs on 18 July, 1994: Use IRIT indicators for inspection types for Level II.A.1-3 activities, and use Peggy Thurber's mapping (grouped by Mike into d31-d39 indicators) for Level III activities)

- Change inspection from IRIT appropriately: cert_inspect for COI, reinspect for Reinspection, and hull for hull exam.
- Change the Unload to file else WILL WRITE OVER)

(Only post 1991 (incl) inspections since duration since last inspection to casualty, and first casualty in Minmod is 02/91)

Duration data: The idea is as follows. The lhs variable is duration from the Last inspection till date of casualty. Analysis will be by Level II activities: (i) 3 MI activities: COI, Annual Vessel Reinspection, Hull Exam, and (ii) 3 PS activities: Annual Foreign Freight Exam, Annual Foreign Tanker Vessel Exam, Annual Foreign Passenger. The same vessel inspected (using same activity) twice is treated as two different vessels, and as two observations (i.e. Hence large data set.) If the vessel has no casualty after an activity, the lhs takes the value of duration till the next activity of the same type. The problem is that casualty may not have anything to do with that activity. For, example pri_nature in CIRT may possess such info. This can (should?) be incorporated by attributing only those casualties to that activity. This requires that pri_nature should be mapped into Level II activities. This mapping will probably be one(pri_nature) to many(Level II activities). (b) should we be taking duration till next activity of the same type, or any activity. If we take into consideration pri_nature and ascribe only the "casualties connected with that activity" in computing the lhs variable, then we take duration till next activity of the Same type if no casualty in the meantime. Else not so easy, since casualty may be of a nature attributable to another kind of activity. Even if pri_nature used, probably not too easy, since mapping is probably one(pri_nature) to many or all(Level II activity). So problem still unanswered. Solution: We take the simple road. All casualties, not just those attributable directly to the Level II activity is considered. since anyway a large range of inspections map into a Level II activity, and Many pri_natures map into this set of inspections. Also since some vessels are subject to a Level II activity sooner than others, rather than take the duration between two inspections, in the event of No casualty we take the duration between the inspection date and 1/1/1995. The problem is that the closer the inspection to that date, the shorter the duration recorded. But mainly, it is convenient, the duration so computed does not exceed the duration where there Are casualties, and since the last inspection was in 12/1993, this simplification is not expected to qualitatively change any results.

rhs variable is still number of hours devoted to that activity etc. The main difference is the age of the vessel, which is to be computed at the time of casualty, or at the time of next inspection if no casualty.

{For the hours of inspection equation have (i) num_def from IRIT and
 (ii) indicators for inspection types for other CRST inspections}

select

irit.vkey iritvkey, irit.dt iritdate,

```
count(*) numcases,sum(hr_hull) hull_hr,sum(hr_mach) mach_hr,
  sum(hr_train) train_hr, sum(hr_extra) extra_hr,sum(hr_textra) textra_hr,
sum(hr_admin) admin_hr, sum(hr_travel) travel_hr,sum(hr_ttravel) ttravel_hr,
  sum(hr_other) other_hr,
  sum(irit.num_def) num_def,
  (Sum of Mike's dummies (based on Peggy's mapping) gives the total of
   sub-inspections for that Level II activity on that date)
  sum(d2a1) numd2a1,sum(d2a2) numd2a2,sum(d2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crst.dannual) crstannual, sum(crst.dreinsp) crstreinsp,
  sum(crst.dadmin) crstadmin,sum(crst.dhull) crsthull,sum(crst.dcoc) crstcoc,
  sum(crst.dconstr) crstconstr,sum(crst.dcert) crstcert,
  sum(crst.dinit) crstinit,sum(crst.dmach) crstmach,sum(crst.ddeficit) crstdef,
  sum(crst.dother) crstother,sum(crst.drest) crstrest
from crst, irit
(Since first casualty case is 02/91 and duration is from last inspection, only
 inspections after 1991 are considered. This is unlike the Poisson stuff where
 inspections after 1989 are considered)
where
       {activity II.A.3=Hull Exam}
      irit.hull_inspect="X" and
      irit.micase[1,2]="MI" and
      irit.vkey[1,2]="VN" and
crst.case[1,2]="MI" and
      (since first casualty case is 02/91 and duration is from last inspec)
      crst.case[3,4]>="91" and
      crst.case=irit.micase
group by irit.vkey, irit.dt
into temp crst_temp0;
select count(*) countcrst_temp0
from crst_temp0;
(This file joins CRST_TEMP0 (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.)
(drop table vidtcrst;)
select
  crst_temp0.*,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from crst_temp0, vidt
where
  crst_temp0.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vidtcrst;
```

```
select count(*)
from vidtcrst;
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records}
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey,deaths,missing,injured,cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
 of duplicates before grouping by vkey)
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
                                                      and
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup.
by just civtvkey, incident_dt, get almost same rows as this}
select * from civt_dups
group by civtvkey, cirtdate, deaths, missing, injured
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that numdates now
gives the number of unique incident dates associated with that vessel}
```

```
civtvkey, cirtdate,
      sum(deaths) deaths, sum(missing) missing, sum(injured) injured
from civt_nodups
group by civtvkey, cirtdate
order by deaths desc, injured desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
(Here we do the last part: join inspection and casualty tables, and Unload
 2 Personnel casualty files (one for M/Y and one for just Y))
drop table persinsp;
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
{I.
      Join hours and casualties.
 vidtcrst sorted by iritvkey, iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
(This first set of statements for making persinsp and checking)
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidccrst.iritdate
into temp persinsp;
select count(*) num_persinsp from persinsp;
{Count number of unique (iritvkey, iritdate) in persinsp}
select unique iritvkey, iritdate from persinsp into temp junk0;
select count(*) numuniq_persinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtcrst)
select count(*) vidtcrst_keep from persinsp
where civtvkey is not null;
(This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set)
select *, month(iritdate) mo,year(iritdate) ye
from vidtcrst
into temp inspect;
{By MY}
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
```

```
sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
   sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
   sum(other_hr) other_hr,
   sum(num_def) num_def,
 (Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities)
   sum(numd2a1) numd2a1, sum(numd2a2) numd2a2, sum(numd2a3) numd2a3,
 (CRST types of inspections: indicators)
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin, sum(crsthull) crsthull, sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit, sum(crstmach) crstmach, sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr, sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef)-crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, ye
into temp inspect_Y;
(Make a table grouped Just by iritvkey for vessel characteristics)
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
 justvkey.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
  vidt.flag="US"
into temp vesschar;
```

```
select count(*) num_vesschar from vesschar;
(The following comments apply to when I was using Peggy's mapping for
Level II activities. But since we are now using IRIT indicators are these
 comments still applicable? We'll find out, if there is a big difference
between the M/Y and the just Y file size)
(II. Here we compute Duration, and get rid of duplicate values.
We Group by Month/Year of IRIT inspection. This is since several Level II
 activities may be grouped in a bunch but on several different days. We
would like to count this bunch only once. There is still an approximation
 since bunch may overlap between two months. Can't prevent this in SQL
Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years}
(Note: for inspections with no casualty, duration=(1/1/95 - iritdate))
{Data set 1: Group by Month/Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from persinsp
into temp durl;
select iritvkey,mo,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by iritvkey, mo,ye
order by iritvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
           inspect_MY.*, mindur_cas, dur_nocas,
select
  service, flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
where
            inspect_MY.iritvkey=dur2.iritvkey and
      inspect_MY.iritvkey=vesschar.iritvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by iritvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to */nfs/ttd32/optical/50b/trix.dat/dur_2a3_my.pers* delimiter *,*
select *
from dur3;
(Check the aggregation)
           count(*)
                       numrows,
                                  sum(hull_hr) tot_hull_hr, sum(mach_hr)
select
tot_mach_hr,
     sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2.
      sum(numd2a3) numd2a3
```

```
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
           iritvkey, month(iritdate) mo, year(iritdate) ye,
select
      (cirtdate-iritdate) dur_cas, (*1/1/95*-iritdate) dur_nocas
from persinsp
into temp dur1;
select iritvkey, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
from dur1
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
           inspect_Y.*, mindur_cas, dur_nocas,
select
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a3_y.pers" delimiter ","
select *
from dur3;
                                sum(hull_hr)
                                               tot_hull_hr,
                                                             sum(mach_hr)
                      numrows,
           count(*)
select
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3:
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
 pollution data set}
output to /users/gawande/dur_a3_pers.out
select *
from dur3
where reg_gt>100000;
```

```
(Be sure to run MIDUR1 and MIDUR2 before these two progs)
{ Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records}
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
  civt.vkey civtvkey, cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique))
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
(Jim Law: converstion on July 14, 1994. The following query contracts CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
(Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
{To select Only BAD cases, unblock this statement}
 {severity in ("MAJOR", "POTENT", "MEDIUM") and}
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
{This set of statements selects non-duplicate rows in civt_dup. Although
 this is an approximation of duplicates, its not a bad one. Can't really
```

```
check for the pollution cases since mostly number of cases is 1)
 select * from civt_dups
 group by civtvkey, cirtdate
 into temp civt_nodups;
 select count(*) num_civtnodups
 from civt_nodups;
 (group by vkey to attach to the inspections file. Note that poll_incids now
  gives the number of unique incident dates associated with that vessel on
  a cirtdate, and hence is probably always equal to 1.
  Actually poll_incids is superfluous and never used in the duration file anyway)
 select civtvkey, cirtdate, count(*) poll_incids
 from civt_nodups
 group by civtvkey, cirtdate
 order by poll_incids desc
 into temp cirt_civt0;
 select count(*) num_cirtcivt0
 from cirt_civt0;
 {drop table cirt_civt0;}
 (Here we do the last part: join inspection and casualty tables, and Unload
 2 Pollution casualty files (one for M/Y and one for just Y))
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
 vidtcrst sorted by iritvkey, iritdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>iritdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
{This first set of statements for making pollinsp and checking}
select unique vidtcrst.*, cirt_civt0.*
from vidtcrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtcrst.iritvkey and
      cirt_civt0.cirtdate>=vidtcrst.iritdate
into temp pollinsp;
select count(*) num_pollinsp from pollinsp;
(Count number of unique (iritvkey,iritdate) in pollinsp)
select unique iritvkey, iritdate from pollinsp into temp junk0;
select count(*) numuniq_pollinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtcrst)
select count(*) vidtcrst_keep from pollinsp
where civtvkey is not null;
{This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set)
```

```
select *, month(iritdate) mo, year(iritdate) ye
from vidtcrst
into temp inspect;
(By MY)
select
  iritvkey, mo, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1, sum(numd2a2) numd2a2, sum(numd2a3) numd2a3,
(CRST types of inspections: indicators)
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  iritvkey, ye,
  sum(numcases) numcases,sum(hull_hr) hull_hr,sum(mach_hr) mach_hr,
  sum(train_hr) train_hr, sum(extra_hr) extra_hr,sum(textra_hr) textra_hr,
  sum(admin_hr) admin_hr, sum(travel_hr) travel_hr,sum(ttravel_hr) ttravel_hr,
  sum(other_hr) other_hr,
  sum(num_def) num_def,
(Level II Dummies from Mike: Duration model on only Level II activities
 Here only II.A activities since only U.S. flag MI activities}
  sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,sum(numd2a3) numd2a3,
{CRST types of inspections: indicators}
  sum(crstannual) crstannual, sum(crstreinsp) crstreinsp,
  sum(crstadmin) crstadmin,sum(crsthull) crsthull,sum(crstcoc) crstcoc,
  sum(crstconstr) crstconstr,sum(crstcert) crstcert,
  sum(crstinit) crstinit,sum(crstmach) crstmach,sum(crstdef) crstdef,
  sum(crstother) crstother,sum(crstrest) crstrest
from inspect
group by iritvkey, ye
into temp inspect_Y;
(Make a table grouped Just by iritvkey for vessel characteristics)
select iritvkey
from vidtcrst
group by iritvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select justvkey.iritvkey,
  vidt.service service, vidt.flag flag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
```

```
justvkey.iritvkey=vidt.vkey and
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
    and
 vidt.flag="US"
into temp vesschar;
select count(*) num_vesschar from vesschar;
(II. Here we compute Duration, and get rid of duplicate values. We Group by Month/Year of IRIT inspection. This is since several Level II
 activities may be grouped in a bunch but on several different days. We
would like to count this bunch only once. There is still an approximation
 since bunch may overlap between two months. Can't prevent this in SQL
 Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
(Note: for inspections with no casualty, duration=(1/1/95 - iritdate))
{Data set 1: Group by Month/Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
      (cirtdate-iritdate) dur_cas, ("1/1/95"-iritdate) dur_nocas
from pollinsp
into temp dur1;
select iritvkey, mo, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
from dur1
group by iritvkey, mo,ye
order by iritvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
            inspect_MY.*, mindur_cas, dur_nocas,
select
  service , flag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
            inspect_MY.iritvkey=dur2.iritvkey and
where
      inspect_MY.iritvkey=vesschar.iritvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by iritvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a3_my.pollall" delimiter ","
select *
from dur3;
{Check the aggregation}
                                    sum(hull_hr) tot_hull_hr,
                                                                    sum(mach_hr)
            count(*)
                       numrows,
select
```

```
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
from dur3;
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
            iritvkey, month(iritdate) mo, year(iritdate) ye,
select
      (cirtdate-iritdate) dur_cas, (*1/1/95*-iritdate) dur_nocas
from pollinsp
into temp dur1;
select iritvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from durl
group by iritvkey, ye
order by iritvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junkl;
drop table junk1;
{Join duration and inspection tables}
            inspect_Y.*, mindur_cas, dur_nocas,
  service , flag, reg_gt, yearbld, route,
dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
            inspect_Y.iritvkey=dur2.iritvkey and
where
      inspect_Y.iritvkey=vesschar.iritvkey and
      inspect_Y.ye=dur2.ye
order by iritvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2a3_y.pollall" delimiter ","
select *
from dur3;
                                    sum(hull_hr)
                                                   tot_hull_hr,
                                                                    sum(mach_hr)
            count(*)
                        numrows,
select
tot_mach_hr,
      sum(admin_hr) tot_admin_hr
select count(*) numrows, sum(numd2a1) numd2a1,sum(numd2a2) numd2a2,
      sum(numd2a3) numd2a3
from dur3;
(print this out for var names to an output file since need also to print for
 pollution data set)
output to /users/gawande/dur_a3_poll.out
select *
from dur3
where reg_gt>100000;
```

```
DUR_B.SQL
(PS Cases)
{Use Peggy Thurber's mapping for Both Level II and Level III data sets.
 This is different from the MI case, where IRIT's major activity
 indicators were used to select Level II.A activities. Since II.B
 activities are differentiated only by service, we use Peggy's mapping
 since the data sets will be disaggregated by service. We need to
construct JUST ONE data set for Level II activities, and then select out the B1, B2, and B3 data sets in Gauss.)
 Change the Unload to file else WILL WRITE OVER
  2. Change the Output To files else WILL WRITE OVER )
(Only post 1991 (incl) inspections since duration since last inspection to
casualty, and first casualty in Minmod is 02/91}
{ Duration data: The idea is as follows: See the MI duration programs
  dur_al for this }
avst.vkey avstvkey, brit.act_dt britdate,
  count(*) numcases,sum(hr_reg) reg_hr,sum(hr_res) res_hr,
  sum(hr_boat) boat_hr, sum(hr_air) air_hr,
  sum(hr_regadmin) admin_hr,sum(hr_regtvl) travel_hr,
  sum(hr_other) other_hr,
  sum(num_def) avst_def,sum(num_act) avst_act,
{Level II and III Dummies from Mike based on Peggy Thurber's mapping
 Here only II.B activities since only PS activities)
  sum(d2b1) numd2b1,sum(d2b2) numd2b2,sum(d2b3) numd2b3,
(Note that 35, 36, and 38 for US Flag only needed, but am including it here)
  sum(d31) numd31, sum(d32) numd32, sum(d33) numd33, sum(d34) numd34,
  sum(d35) numd35, sum(d36) numd36, sum(d37) numd37, sum(d38) numd38,
  sum(d39) numd39
from brst, avst, brit
where
      {Level II.B activities are all in one data set. Will disagg by service
       in Gauss later)
      (brst.d2b1=1 or brst.d2b2=1 or brst.d2b3=1) and
      (since first casualty case is 02/91 and duration is from last inspec)
      brst.pscase[3,4]>="9\overline{1}" and
      brst.pscase=avst.pscase and
      brst.pscase=brit.pscase
group by avst.vkey, brit.act_dt
into temp brst_temp0;
select count(*) countbrst_temp0
from brst_temp0;
{This file joins BRST_TEMPO (agg hours by vkey) to VIDT to identify the foll:
 service, flag, reg_gt, bld_yr, route.)
{drop table vidtbrst;}
select
```

```
brst_temp0.*,
  vidt.service vidtservice, vidt.flag vidtflag, vidt.reg_gt reg_gt,
  year (vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from brst_temp0, vidt
where
  brst_temp0.avstvkey=vidt.vkey and
  (vidt.flag="US" and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
  (vidt.flag not in (*US*) and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP" ) )
into temp vidtbrst;
select count(*)
from vidtbrst:
{****************************Personnel Casualties***********************
{ Here, casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Personnel casualties are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records)
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
select
 civt.vkey civtvkey, deaths, missing, injured, cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that in CIVT, the vkey is not unique (in VIDT vkey is unique). Hence
 first get temp table civt_dups (with duplicates). Then check for number
of duplicates before grouping by vkey)
where
 cirt.mccase=civt.mccase and
 civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
 (cirt.command_endorse="X"
 or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
```

```
(Since inspections program selects correctly, here select larger subset
  so that don't miss out anything when merge. Passenger<100 also selected)
  (cirt.deaths>0 or cirt.missing>0 or cirt.injured>0)
  ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
    or civt.service="TANK SHIP" or
    civt.service="PASSENGER" or civt.service="PASSENGER SHIP")
 into temp civt_dups;
 select count(*) num_civtdups
 from civt_dups;
 {This set of statements selects non-duplicate rows in civt_dup.
 by just civtvkey, incident_dt, get almost same rows as this)
 select * from civt_dups
group by civtvkey, cirtdate, deaths, missing, injured
 into temp civt_nodups;
 select count(*) num_civtnodups
 from civt_nodups;
 (group by vkey to attach to the inspections file. Note that numdates now
 gives the number of unique incident dates associated with that vessel)
select
            civtvkey, cirtdate,
      sum(deaths) deaths,sum(missing) missing,sum(injured) injured
from civt_nodups
group by civtvkey, cirtdate
order by deaths desc, injured desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
(Here we do the last part: join inspection and casualty tables, and Unload
 2 Personnel casualty files (one for M/Y and one for just Y))
drop table persinsp;
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
 vidtbrst sorted by avstvkey, britdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>britdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
{This first set of statements for making persinsp and checking}
select unique vidtbrst.*, cirt_civt0.*
from vidtbrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtbrst.avstvkey and
      cirt_civt0.cirtdate>=vidtbrst.britdate
into temp persinsp;
```

```
select count(*) num_persinsp from persinsp;
(Count number of unique (avstvkey, britdate) in persinsp)
select unique avstvkey, britdate from persinsp into temp junk0;
select count(*) numuniq_persinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtbrst)
select count(*) vidtbrst_keep from persinsp
where civtvkey is not null;
{This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set)
select *, month(britdate) mo,year(britdate) ye
from vidtbrst
into temp inspect;
(By MY)
select
  avstvkey, mo, ye,
  sum(numcases) numcases,sum(reg_hr) reg_hr,sum(res_hr) res_hr,
  sum(boat_hr) boat_hr, sum(air_hr) air_hr,
  sum(admin_hr) admin_hr,sum(travel_hr) travel_hr, sum(other_hr) other_hr,
  sum(avst_def) avst_def,sum(avst_act) avst_act,
(Level II and III Dummies from Mike based on Peggy Thurber's mapping
 Here only II.B activities since only PS activities}
  sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,sum(numd2b3) numd2b3,
(Note that 35, 36, and 38 for US Flag only needed, but am including it here)
  sum(numd31) numd31, sum(numd32) numd32, sum(numd33) numd33, sum(numd34) numd34,
  sum(numd35) numd35, sum(numd36) numd36, sum(numd37) numd37,sum(numd38) numd38,
  sum (numd39) numd39
from inspect
group by avstvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  avstvkey, ye,
  sum(numcases) numcases,sum(reg_hr) reg_hr,sum(res_hr) res_hr,
  sum(boat_hr) boat_hr, sum(air_hr) air_hr,
  sum(admin_hr) admin_hr,sum(travel_hr) travel_hr, sum(other_hr) other_hr,
  sum(avst_def) avst_def,sum(avst_act) avst_act,
{Level II and III Dummies from Mike based on Peggy Thurber's mapping
 Here only II.B activities since only PS activities)
  sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,sum(numd2b3) numd2b3,
{Note that 35, 36, and 38 for US Flag only needed, but am including it here}
  sum(numd31) numd31, sum(numd32) numd32, sum(numd33) numd33,sum(numd34) numd34,
  sum (numd35) numd35, sum (numd36) numd36, sum (numd37) numd37, sum (numd38) numd38,
  sum(numd39) numd39
from inspect
group by avstvkey, ye
into temp inspect_Y;
{Make a table grouped Just by avstvkey for vessel characteristics}
select avstvkey
from vidtbrst
group by avstvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
```

```
select
  justvkey.avstvkey,
  vidt.service vidtservice, vidt.flag vidtflag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
{These have many nulls and are used only for model of inspection if adequate}
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
  justvkey.avstvkey=vidt.vkey and
  {vidt.flag="US" and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
  (vidt.flag not in (*US*) and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or vidt.service="PASSENGER" or
  vidt.service=*PASSENGER SHIP* ) )
into temp vesschar;
select count(*) num_vesschar from vesschar;
(The following comments apply to Peggy's mapping for Level II activities.
 We'll find out, if there is a big difference
between the M/Y and the just Y file size)
(II. Here we compute Duration, and get rid of duplicate values.
 We Group by Month/Year of BRIT inspection. This is since several Level II
 activities may be grouped in a bunch but on several different days. We
 would like to count this bunch only once. There is still an approximation
 since bunch may overlap between two months. Can't prevent this in SQL
Hence we do two data sets:
 (i) Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller data set, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
{Note: for inspections with no casualty, duration=(1/1/95 - britdate)}
{Data set 1: Group by Month/Year}
            avstvkey, month(britdate) mo, year(britdate) ye,
      (cirtdate-britdate) dur_cas, ("1/1/95"-britdate) dur_nocas
from persinsp
into temp dur1;
select avstvkey,mo,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from durl
group by avstvkey, mo, ye
order by avstvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
select
            inspect_MY.*, mindur_cas, dur_nocas,
  vidtservice, vidtflag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_MY, dur2, vesschar
           inspect_MY.avstvkey=dur2.avstvkey and
where
```

```
inspect_MY.avstvkey=vesschar.avstvkey and
      inspect_MY.mo=dur2.mo and
      inspect_MY.ye=dur2.ye
order by avstvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2b_my.pers" delimiter ","
select *
from dur3;
select
            sum(numcases) numcases,sum(reg_hr) tot_reg,sum(res_hr) tot_res,
  sum(admin_hr) tot_admin
from dur3;
select count(*) numrows, sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,
      sum(numd2b3) numd2b3
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
           avstvkey, month(britdate) mo, year(britdate) ye,
      (cirtdate-britdate) dur_cas, ("1/1/95"-britdate) dur_nocas
from persinsp
into temp durl;
select avstvkey, ye, min(dur_cas) mindur_cas, max(dur_nocas) dur_nocas
from durl
group by avstvkey, ye
order by avstvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1;
{Join duration and inspection tables}
            inspect_Y.*, mindur_cas, dur_nocas,
select
  vidtservice, vidtflag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
where
            inspect_Y.avstvkey=dur2.avstvkey and
      inspect_Y.avstvkey=vesschar.avstvkey and
      inspect_Y.ye=dur2.ye
order by avstvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2
                                   from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2b_y.pers" delimiter ","
select *
from dur3;
```

```
sum(numcases) numcases,sum(reg_hr) tot_reg,sum(res_hr) tot_res,
  sum(admin_hr) tot_admin
from dur3;
select count(*) numrows, sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,
      sum(numd2b3) numd2b3
from dur3;
(print this out for var names to an output file since need also to print for
pollution data set}
output to /users/gawande/dur_b_pers.out
select *
from dur3
where reg_gt>100000;
                ************Pollution Casualties**************************
{Be sure to run MIDUR1 and MIDUR2 before these two progs}
{ Here, pollution casualty data is assembled from CIVT and CIRT.
CIRT, and CIVT are joined by (unique) Mccase and select out only
deep-draft vessels (hence a little use of VIDT). Pollution incidents are
constructed from CIRT (which has no vkey) and joined to CIVT to associate
them with a Vkey. There are duplicate Vkey records in CIVT (of the 28,821
records, 13,548 have unique Vkey), so we need to choose only unique records}
drop table civt_dups;
drop table civt_nodups;
drop table cirt_civt0;
  civt.vkey civtvkey, cirt.incident_dt cirtdate
from cirt, civt, vidt
(Note that using VIDT for the reg_gt>100 info and hence need Unique in select
 statement since in CIVT, the vkey is not unique (in VIDT vkey is unique)}
where
  cirt.mccase=civt.mccase and
  civt.vkey=vidt.vkey and
{Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. }
(Jim Law: converstion on July 14, 1994. The following query contracts
CIRT to cases that are correct (drop mystery and inconsequential
casualties). ctf_ind=X are inconsequential cases. command_endorse and
command_cls are mutually exclusive. command_endorse=X implies that
case has been reviewed and fwd to dt/HQ for review. command_cls=X means that
case is done and does not require review at dt/HQ. command_endorse=X are
legit cases and all should be considered. Of the command_cls=X cases, only
those with ctf_ind=null should be considered since ctf_ind=X implies an
inconsequential case. )
```

```
(cirt.command_endorse="X"
  or (cirt.command_cls="X" and cirt.ctf_ind is null)) and
 cirt.mcpd_ind>=1 and
 (cirt.pol_ind="X" or pri_nature="POLLUTION") and
(To select Only BAD cases, unblock this statement)
 {severity in ("MAJOR", "POTENT", "MEDIUM") and)
 ( civt.service="FREIGHT SHIP" or civt.service="PUB. TANKSHIP/BARGE"
   or civt.service="TANK SHIP" or
   ((civt.service="PASSENGER" or civt.service="PASSENGER SHIP") and
     vidt.reg_gt>=100) )
into temp civt_dups;
select count(*) num_civtdups
from civt_dups;
(This set of statements selects non-duplicate rows in civt_dup. Although
 this is an approximation of duplicates, its not a bad one. Can't really
 check for the pollution cases since mostly number of cases is 1}
select * from civt_dups
group by civtvkey, cirtdate
into temp civt_nodups;
select count(*) num_civtnodups
from civt_nodups;
(group by vkey to attach to the inspections file. Note that poll_incids now
 gives the number of unique incident dates associated with that vessel on
 a cirtdate, and hence is probably always equal to 1.
 Actually poll_incids is superfluous and never used in the duration file anyway)
select civtvkey, cirtdate, count(*) poll_incids
from civt_nodups
group by civtvkey, cirtdate
order by poll_incids desc
into temp cirt_civt0;
select count(*) num_cirtcivt0
from cirt_civt0;
{drop table cirt_civt0;}
{Here we do the last part: join inspection and casualty tables, and Unload
 2 Pollution casualty files (one for M/Y and one for just Y) }
drop table inspect;
drop table inspect_MY;
drop table inspect_Y;
drop table justvkey;
drop table vesschar;
drop table dur1;
drop table dur2;
drop table dur3;
      Join hours and casualties.
vidtbrst sorted by avstvkey, britdate, and cirt_civt0 is sorted by civtvkey,
 cirtdate. Hence there are duplicate vkeys in both and the next join
 statement produces a small cartesian explosion, but this is ok since we Need
 this explosion because
 (i) we need to match only where cirtdate>britdate, and
 (ii) we need to compute MIN duration among the cartesian matches)
```

```
(This first set of statements for making pollinsp and checking)
select unique vidtbrst.*, cirt_civt0.*
from vidtbrst, outer cirt_civt0
where cirt_civt0.civtvkey=vidtbrst.avstvkey and
      cirt_civt0.cirtdate>=vidtbrst.britdate
into temp pollinsp;
select count(*) num_pollinsp from pollinsp;
(Count number of unique (avstvkey, britdate) in pollinsp)
select unique avstvkey, britdate from pollinsp into temp junk0;
select count(*) numuniq_pollinsp from junk0;
drop table junk0;
(Count number of casualty vkeys that Are in vidtbrst)
select count(*) vidtbrst_keep from pollinsp
where civtvkey is not null;
(This is to make the inspections by M/Y and also by just Y to join with
 the so grouped duration data below for the complete data set}
select *, month(britdate) mo,year(britdate) ye
from vidtbrst
into temp inspect;
{By MY}
select
  avstvkey, mo, ye,
  sum(numcases) numcases,sum(reg_hr) reg_hr,sum(res_hr) res_hr,
  sum(boat_hr) boat_hr, sum(air_hr) air_hr,
  sum(admin_hr) admin_hr,sum(travel_hr) travel_hr, sum(other_hr) other_hr,
  sum(avst_def) avst_def,sum(avst_act) avst_act,
(Level II and III Dummies from Mike based on Peggy Thurber's mapping
 Here only II.B activities since only PS activities}
  sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,sum(numd2b3) numd2b3
(Note that 35, 36, and 38 for US Flag only needed, but am including it here)
  sum(numd31) numd31, sum(numd32) numd32, sum(numd33) numd33, sum(numd34) numd34,
  sum(numd35) numd35, sum(numd36) numd36, sum(numd37) numd37, sum(numd38) numd38,
  sum(numd39) numd39
from inspect
group by avstvkey, mo, ye
into temp inspect_MY;
{By Y}
select
  avstvkey, ye,
  sum(numcases) numcases,sum(reg_hr) reg_hr,sum(res_hr) res_hr,
  sum(boat_hr) boat_hr, sum(air_hr) air_hr,
  sum(admin_hr) admin_hr,sum(travel_hr) travel_hr, sum(other_hr) other_hr,
  sum(avst_def) avst_def,sum(avst_act) avst_act,
(Level II and III Dummies from Mike based on Peggy Thurber's mapping
 Here only II.B activities since only PS activities)
  sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,sum(numd2b3) numd2b3,
(Note that 35, 36, and 38 for US Flag only needed, but am including it here)
  sum (numd31) numd31, sum (numd32) numd32, sum (numd33) numd33, sum (numd34) numd34,
  sum(numd35) numd35, sum(numd36) numd36, sum(numd37) numd37, sum(numd38) numd38,
  sum(numd39) numd39
from inspect
group by avstvkey, ye
into temp inspect_Y;
{Make a table grouped Just by avstvkey for vessel characteristics}
```

```
select avstvkey
from vidtbrst
group by avstvkey
into temp justvkey;
select count(*) num_justvkey from justvkey;
select
  justvkey.avstvkey,
  vidt.service vidtservice, vidt.flag vidtflag, vidt.reg_gt reg_gt,
  year(vidt.bld_dt) yearbld, vidt.route route,
(These have many nulls and are used only for model of inspection if adequate)
  vidt.dblside_typ, vidt.dblbott_typ, vidt.prop_typ, vidt.design, vidt.hull_mat
from justvkey, vidt
where
  justvkey.avstvkey=vidt.vkey and
  (vidt.flag="US" and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or ((vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP") and vidt.reg_gt>=100)
  (vidt.flag not in (*US*) and (
  vidt.service="FREIGHT SHIP" or vidt.service="PUB. TANKSHIP/BARGE" or
  vidt.service="TANK SHIP" or vidt.service="PASSENGER" or
  vidt.service="PASSENGER SHIP" ) )
into temp vesschar;
select count(*) num_vesschar from vesschar;
(II. Here we compute Duration, and get rid of duplicate values. We Group by Month/Year of BRIT inspection. This is since several Level II
 activities may be grouped in a bunch but on several different days. We
 would like to count this bunch only once. There is still an approximation
 since bunch may overlap between two months. Can't prevent this in SQL
 Hence we do two data sets:
     Group by Month/Year, as described above, and
 (ii) Group by just Year. This is a smaller dataset, and is the correct one
      for Level II activities that are performed over 1 or 2 years)
(Note: for inspections with no casualty, duration=(1/1/95 - britdate)}
{Data set 1: Group by Month/Year}
            avstvkey, month(britdate) mo, year(britdate) ye,
select
      (cirtdate-britdate) dur_cas, ("1/1/95"-britdate) dur_nocas
from pollinsp
into temp durl;
select avstvkey,mo,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from durl
group by avstvkey, mo, ye
order by avstvkey, ye, mo
into temp dur2;
select count(*) all_rows_MY_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_1 from junk1;
drop table junk1;
(Join duration and inspection tables)
            inspect_MY.*, mindur_cas, dur_nocas,
  vidtservice, vidtflag, reg_gt, yearbld, route,
```

```
dblside_typ, dblbott_typ, prop_typ, design, hull_mat
 from inspect_MY, dur2, vesschar
where
            inspect_MY.avstvkey=dur2.avstvkey and
       inspect_MY.avstvkey=vesschar.avstvkey and
       inspect_MY.mo=dur2.mo and
       inspect_MY.ye=dur2.ye
order by avstvkey, ye, mo
into temp dur3;
select count(*) all_rows_MY_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_MY_2 from junk1;
drop table junk1;
unload to "/nfs/ttd32/optical/50b/trix.dat/dur_2b_my.pollall" delimiter ","
select *
from dur3;
{Check the aggregation}
            sum(numcases) numcases,sum(reg_hr) tot_reg,sum(res_hr) tot_res,
  sum(admin_hr) tot_admin
from dur3;
select count(*) numrows, sum(numd2b1) numd2b1,sum(numd2b2) numd2b2,
      sum(numd2b3) numd2b3
from dur3;
drop table dur1;
drop table dur2;
drop table dur3;
{Data set 2: Group by just Year}
           avstvkey, month(britdate) mo, year(britdate) ye,
select
      (cirtdate-britdate) dur_cas, (*1/1/95*-britdate) dur_nocas
from pollinsp
into temp durl;
select avstvkey,ye,min(dur_cas) mindur_cas,max(dur_nocas) dur_nocas
from dur1
group by avstvkey, ye
order by avstvkey, ye
into temp dur2;
select count(*) all_rows_Y_1 from dur2;
select * from dur2 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_1 from junk1;
drop table junk1:
(Join duration and inspection tables)
            inspect_Y.*, mindur_cas, dur_nocas,
select
  vidtservice, vidtflag, reg_gt, yearbld, route,
  dblside_typ, dblbott_typ, prop_typ, design, hull_mat
from inspect_Y, dur2, vesschar
            inspect_Y.avstvkey=dur2.avstvkey and
where
      inspect_Y.avstvkey=vesschar.avstvkey and
      inspect_Y.ye=dur2.ye
order by avstvkey, ye
into temp dur3;
select count(*) all_rows_Y_2 from dur3;
select * from dur3 where mindur_cas is not null into temp junk1;
select count(*) with_casualty_Y_2 from junk1;
drop table junk1;
```

Appendix C: Mapping Of CASMAIN and MINMOD Casualty Casual Keywords to Level III Intervention Activities

Casualty casual information in the CASMAIN and MINMOD portions of MSMS are grouped by Level III Inspection and Boarding activities to provide a basis for calculating the importance of the Level III activities in the risk based ranking method for Level III MOEs. Discussions with USCG Marine Investigation personnel indicate that there is a substantial difference in the manner in which casualty casual information is recorded between CASMAIN and MSMS. CASMAIN contains 90 keywords under the element name NATURE OF CASUALTY. There are 108 keywords under the element name CAUSE OF CASUALTY. MINMOD has only 16 keywords under the element name TYPE that are analogous to the NATURE and CAUSE keywords of CASMAIN. Marine Investigation Personnel advised that the information stored in such tables as the Casualty Casual Factor Record (CCFT), Casualty Collision and Grounding Record Table, Casualty Fire and Explosion Record (CFET), Casualty Flood and Capsizing Record (CFCT), and the Casualty Structural Failure Record (CSFT) was not analogous to the NATURE and CAUSE data in CASMAIN.

The structure of CASMAIN is such that a NATURE keyword can have up to three CAUSE keywords linked to it. The information at both levels is useful in linking casualty data to specific Level III inspection activities. However, many of the keywords could not be linked to the Level III activities. Of the 90 keywords under NATURE, 58 could be identified as relevant to the Level III activities. For the CAUSE keywords, only 3 out of 108 could be identified as useful. The results for the CASMAIN keywords are summarized below.

Level III Inspection/Boarding Activity			Number Of Relevant CASMAIN NATURE and CAUSE Keywords
1)	Cargo/Poll. Control	Handling/Pollution	2
•			6
2)	Steering/Navigation		•
3)	Document/Paperwork		1
- /			2
4)	Drills/Human Factors		
			5
5)	Auxiliary Syster	ns (U.S. Flag Only)	17
6)	Power Plant (U	S Flag Only)	17
0)	Tower Traine (O	.b. Tag Omy)	25
7)	Fire Fighting Ar	nd Prevention	
			•

8) Hull (U.S. Flag Only)

2

9) Life Saving

1

The MINMOD TYPE keywords in CERT where match to the Level III inspection activities as follows:

Level III Inspection/Boarding Activity			Casualty Event Record Table Type Keyword
1)	Cargo/Poll. Control	Handling/Pollution	POLLUTION
2)	Steering/Navigation		ALLISION GROUNDING ACC LOSS VES CNTRL
3)	Document/Pap	erwork	No Keyword Identified
4)	Drills/Human Factors Auxiliary Systems (U.S. Flag Only) Power Plant (U.S. Flag Only)		PERSONNEL CAS No Keyword Identified LOSS ELEC POWER
5)			
6)			
7)	Fire Fighting A	And Prevention	FIRE
8)	Hull (U.S. Flag	g Only)	SINK FLOODING STRUCTURAL FAIL
9)	Life Saving		No Keyword Identified

As shown above, three Level III inspection/boarding activities are not matched to any of the CERT TYPE keywords. Three of the 16 keywords were not matched to any inspection/boarding activity; REMOVED, LEFT BLANK, and ABANDONMENT.

Appendix D: Mapping from CRST/BRST Inspection Types into Level II and Level III Activities

Note:

- 1. For many inspection types, the mapping is one-to-many.
- 2. A.x.y denotes that the inspection type maps into Level II activity A.x, and Level III activity y. Similarly for B.x.y. Where there is no Level III activity indicator, e.g. A.x, this implies that all 9 Level III activities map into that inspection type. In the absence of any other information, we attribute 1/9 of the total hours to each Level III activity. Hours are similarly equally proportioned wherever there is a one-to-many mapping into Level III activities. Inspection types for which there is no activity listed are not mapped at all. See Section I for definition of Level II and Level III activities.
- 3. Number in parenthesis indicates the number of records in CRST (both MI and PS cases) containing that inspection type.
- 4. This mapping is used for Duration analysis of Level II.B activities and the Poisson analysis of Level III activities (U.S. flag only). For Level II.A activities, indicators in IRIT are used to select relevant inspections.

Inspection Type	Level II and III Activities					
OTHER (81267)	_					
NAT. Cargo/Poll. BUREAU (2035)						
ANNUAL EXAMINATION (39232)		B.1, B.2, B.3				
POLL PREV (50316)	A.1.1, A.2.1;	B.1.1, B.2.1, B.3.1				
LOADLINE (17773)	A.1.8, A.2.8, A.3.	8;B.1.(3,8),B.2.(3,8),B.3.(3,8)				
PASS FRGT (12733)		B.1				
NAV SAFETY (46235)	A.1.2, A.2.2,	B.1.2, B.2.2, B.3.2				
REINSPECTION (38653)	A.2					
MARPOL REQ (30123)	A.1.1, A.2.1;	B.1.y, B.2.y, B.3.y, $y=1-4.7$				
Cargo/Poll. MON (34409)						
ADMIN (78209)	A.1, A.2, A.3;	B.1.y B.2.y, B.3.y, $y=1-4,7,9$				
MONITOR Cargo/Poll. (52630)						
Cargo/Poll. VENT (12720)	A.1.1, A.2.1, A.3	.8;B.2.1				
Cargo/Poll. SUP (2108)						
Cargo/Poll. HAND (139)						
MANNING (16424)	A.1.3, A.2.3	B.1.3, B.2.3, B.3.3				
Cargo/Poll. PIPE (10915)	A.1.1, A.2.1,	B.1.1, B.2.1				
FIRE PROT (31984)	A.1.7, A.2.7;	B.1.7, B.2.7, B.3.7				
SIV BOARDING (4092)						
HULL EXAM (37023)	A.3					
TANK VESS (8062)		B.2				
DISCREPANCY FOLLOWUP (8939)		B.1.y, B.2.y, B.3.y, $y=1-4,7,9$				
DD EXTEND (2821)	A.3.8					
COC (9379)		B.2				
Cargo/Poll. SUPERVISION (2712)						
CONTROL VERIF (1448)		B.3				

```
SOL TRANS (1630)
PERM-PROCEED (891)
BREAK BULK (1682)
DEFICIENCY CK (33238)
                           A.1, A.2, A.3.(3,8)
MOVE CONT (711)
OCEAN DUMP (78)
CERTIFICATION (44631)
                           A.1
LIQ TRANS (92)
LIFERAFT SVC (21374)
                             A.1.9, A.2.9
UNINSP OTHER (266)
UNINSP VES (3409)
INVESTIGATION (7106)
                              A.1.1, A.2.1
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APPENDIX E: A Goal Programming Formulation for Resource Allocation Using MOEs

Let X_{ijk} be person hours of resource type $i \in I$ for MSO_j in time period k, then constraints on resource at MSO_i are

$$\sum_{i} \sum_{j} \sum_{k} X_{ijk} \le M$$
, total available resources

$$\sum\limits_{j}\sum\limits_{k}X_{jk}\leq N^{I},$$
 total available resources of type I , and

$$S_{i}^{J} \ge \sum_{i} \sum_{k} X_{i:k} \ge S_{L}^{J}$$
, where

 $S_{\mathbf{u}}^{J}$, S_{L}^{J} are the upper and lower bounds on resources at MSO_{j} .

The foregoing formalizes the "supply" or resources.

Let D_{jk}^T be the demand for activities (e.g., inspectors) type T at MSO_j in time period k (based upon traffic, USCG regulations and recommended procedures), and can be converted into number of persons for type i resources. We now need to bundle X_{ijk} in type T activities to meet demand by MSO and time period (for example, winter on the East Coast may require different resources than the other seasons) as follows.

 $D_{jk}^T \ge \sum_{i} X_{ijk}^T$ where X_{ijk}^T is the bundle of person hours of resource i's needed for an activity T (such as a hull inspector) at MSO_j for time period k. Note that this formulation assumes X_{ijk}^T are continuous variables ≥ 0 ; appropriate integer (0,1) variables may be needed for precision.

In this formulation, we consider the multiple objective case, where for example, our criterion would be expected number of deaths, injuries, and pollution incidents. We further assume that the objectives can be expressed as goals or targets for a specified time period, e.g., one budget cycle, or 5-year planning horizon. Measuring achievement of the objective are the measures of effectiveness.

Let $Y_{jk}^n = f(\sum_{i} X_{ijk})$ where Y_{kj}^n is the effectiveness measure for the nth objective (if deaths,

injuries and pollution incidents were the criterion, n = 1, 2, 3) for MSO_j for time period k, and A_j^n be the goal or target for this planning period for objective n and MSO_j .

We would like $\sum_{k} Y_{jk}^{n} = A_{j}^{n}$ but realize that this result, i.e., everything matching perfectly, is at best a goal in and of itself. Therefore, we let A_{j}^{n} be a goal and permit over and underachievement of the goal by employing deviation variables and using the general formulation

$$\min Z = \sum_{n=1}^m W_i Y_i ,$$

where $Y_i = f(d_i^+, d_i^-)$, d_i^+ , d_i^- are the deviations above and below a particular goal, in our case, A_j^n , and W_i provide the capability to weight over and under deviation from the goal differently, as well as, the use of preemptive weights to ensure achievement of specified goals.

The formulation can make use of existing linear programming codes (assuming X_{ijk}^T are continuous variables and $f(d_i^+, d_i^-)$ is piece-wise linear). This capability permits human judgement and experience to be used in examining effectiveness measures and the establishment of activity levels at MSOs. Appropriate tradeoffs can be made at two levels: (1) among the set of effectiveness measures; and (2) within effectiveness measures while allowing for the multiobjective nature of the resource allocation process. This permits a flexible determination of weights. A starting point would be to use risk rankings by port, as determined in Section 3.

APPENDIX F: Mathematical Discussion of Resource Allocation

From the econometric models, we can estimate

f(p, t) = expected number of casualties resulting from inspection resources p invested in inspecting traffic mix $\bar{t} = (t_1, ..., t_m)$ [where t_i are number of vessels of characteristic i]

Note f(p, t) is convex in p; i.e.

$$\frac{\partial f}{\partial p}$$
 is monotonically decreasing.

Given an annual traffic forecast for vessels arriving at MSO k, T_k , the expected number of casualties, if p_k inspectors are assigned, will be

$$c_k (p_k) = f(p_k, T_k).$$

Assume we have inspection resources P to allocate across MSOs. Follow the procedure:

1. From P, allocate one unit to MSO x, where x is the MSO with maximum marginal benefit; i.e.

$$\frac{\partial c_x}{\partial p} |_{p_x} = \frac{Max}{y} \frac{\partial c_y}{\partial p} |_{p_y}$$

2. Update p_x with this additional unit.

This will result in a decline in $\frac{\partial c_x}{\partial p} p_x$.

3. Return to step 1 until P is exhausted; i.e. $\sum_{i} p_{i} = P$.

If certain MSOs have more fragile environmental harbors, a weight W_k can be assigned so that

$$W_k \frac{\partial c_k}{\partial p} |_{p_k}$$
 is compared, rather than $\frac{\partial c_k}{\partial p} |_{p_k}$.